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Padigaru, Muralidhara  
Li, Li  
Zerhusen, Bryan D  
Casman, Stacie J  
Shenoy, Suresh G  
Spytek, Kimberly  
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Burgess, Catherine E  
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Vernet, Corine A.M  
Taylor, Sarah  
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Miller, Charles E  
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Grosse, William M  
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Gerlach, Valerie L  
Edinger, Shlomit R  
Rothenberg, Mark E  
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Stone, David

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<212> DNA

<213> Homo sapiens

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Thr	Ser	Ile	Lys	Thr	Gly	Pro	Ala	Arg	Arg	Asn	Ser	Tyr	Lys	Ser	Arg
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Met	Val	Arg	Arg	Ser	Lys	Lys	Ser	Lys	Lys	Lys	Glu	Ser	Leu	Glu	Arg
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His	Thr	Ser	Arg	Ser	Phe	Ser	Cys	Leu	Asn	Arg	Ser	Leu	Ser	Ser	Gly
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Glu	Ser	Leu	Pro	Gly	Ser	Pro	Thr	His	Ser	Leu	Ser	Pro	Arg	Ser	Pro
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Thr	Pro	Ser	Tyr	Arg	Ser	Thr	Pro	Asp	Phe	Pro	Ser	Gly	Thr	Asn	Ser
		1235						1240					1245		
Ser	Gln	Ser	Ser	Ser	Pro	Ser	Ser	Ser	Ala	Pro	Asn	Ser	Pro	Ala	Gly
	1250						1255				1260				
Ser	Gly	His	Ile	Arg	Pro	Ser	Thr	Leu	His	Gly	Leu	Ala	Pro	Lys	Leu
1265						1270					1275				1280
Gly	Gly	Gln	Arg	Tyr	Arg	Ser	Gly	Arg	Arg	Lys	Ser	Ala	Gly	Asn	Ile
			1285						1290					1295	
Pro	Leu	Ser	Pro	Leu	Ala	Arg	Thr	Pro	Ser	Pro	Thr	Pro	Gln	Pro	Thr
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Ser	Pro	Gln	Arg	Ser	Pro	Ser	Pro	Leu	Leu	Gly	His	Ser	Leu	Gly	Asn
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Ser	Lys	Ile	Ala	Gln	Ala	Phe	Pro	Ser	Lys	Met	His	Ser	Pro	Pro	Thr
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Ile	Val	Arg	His	Ile	Val	Arg	Pro	Lys	Ser	Ala	Glu	Pro	Pro	Arg	Ser



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Pro Leu Leu Lys Arg Val Gln Ser Glu Glu Lys Leu Ser Pro Ser Tyr			
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Gly Ser Asp Lys Lys His Leu Cys Ser Arg Lys His Ser Leu Glu Val			
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Thr Gln Glu Glu Val Gln Arg Glu Gln Ser Gln Arg Glu Ala Pro Leu			
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Gln Ser Leu Asp Glu Asn Val Cys Asp Val Pro Pro Leu Ser Arg Ala			
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Arg Pro Val Glu Gln Gly Cys Leu Lys Arg Pro Val Ser Arg Lys Val			
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Gly Arg Gln Glu Ser Val Asp Asp Leu Asp Arg Asp Lys Leu Lys Ala			
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Lys Val Val Val Lys Lys Ala Asp Gly Phe Pro Glu Lys Gln Glu Ser			
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His Gln Lys Ser His Gly Pro Gly Ser Asp Leu Glu Asn Phe Ala Leu			
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Phe Lys Leu Glu Glu Arg Glu Lys Lys Val Tyr Pro Lys Ala Val Glu			
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Arg Ser Ser Thr Phe Glu Asn Lys Ala Ser Met Gln Glu Ala Pro Pro			
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Leu Gly Ser Leu Leu Lys Asp Ala Leu His Lys Gln Ala Ser Val Arg			
	1525	1530	1535
Ala Ser Glu Gly Ala Met Ser Asp Gly Pro Val Pro Ala Glu His Arg			
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Gln Gly Gly Gly Asp Phe Arg Arg Ala Pro Ala Pro Gly Thr Leu Gln			
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Asp Gly Leu Cys His Ser Leu Asp Arg Gly Ile Ser Gly Lys Gly Glu			
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Gly Thr Glu Lys Ser Ser Gln Ala Lys Glu Leu Leu Arg Cys Glu Lys			
	1585	1590	1595
Leu Asp Ser Lys Leu Ala Asn Ile Asp Tyr Leu Arg Lys Lys Met Ser			
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Leu Glu Asp Lys Glu Asp Asn Leu Cys Pro Val Leu Lys Pro Lys Met			
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Thr Ala Gly Ser His Glu Cys Leu Pro Gly Asn Pro Val Arg Pro Thr			
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Gly Gly Gln Gln Glu Pro Pro Pro Ala Ser Glu Ser Arg Ala Phe Val			

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Lys Ala Leu Thr Gly Arg Val Asp Ser Gly Thr Glu Lys Pro Gly Leu 1685 1690 1695		
Val Ala Pro Glu Ser Pro Val Arg Lys Ser Pro Ser Glu Tyr Lys Leu 1700 1705 1710		
Glu Gly Arg Ser Val Ser Cys Leu Glu Pro Ile Glu Gly Thr Leu Asp 1715 1720 1725		
Ile Ala Leu Leu Ser Gly Pro Gln Ala Ser Lys Thr Glu Leu Pro Ser 1730 1735 1740		
Pro Glu Ser Ala Gln Ser Pro Ser Pro Ser Gly Asp Val Arg Ala Ser 1745 1750 1755 1760		
Val Pro Pro Val Leu Pro Ser Ser Ser Gly Lys Lys Asn Asp Thr Thr 1765 1770 1775		
Ser Ala Arg Glu Leu Ser Pro Ser Ser Leu Lys Met Asn Lys Ser Tyr 1780 1785 1790		
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Pro Ala Val Ser Leu Pro Asp Pro Glu Phe Lys Arg Asp Arg Lys Gly 1810 1815 1820		
Pro His Pro Thr Ala Arg Ser Pro Gly Thr Val Met Glu Ser Asn Pro 1825 1830 1835 1840		
Gln Gln Arg Glu Gly Ser Ser Pro Lys His Gln Asp His Thr Thr Asp 1845 1850 1855		
Pro Lys Leu Leu Thr Cys Leu Gly Gln Asn Leu His Ser Pro Asp Leu 1860 1865 1870		
Ala Arg Pro Arg Cys Pro Leu Pro Pro Glu Ala Ser Pro Ser Arg Glu 1875 1880 1885		
Lys Pro Gly Leu Arg Glu Ser Ser Glu Arg Gly Pro Pro Thr Ala Arg 1890 1895 1900		
Ser Glu Arg Ser Ala Ala Arg Ala Asp Thr Cys Arg Glu Pro Ser Met 1905 1910 1915 1920		
Glu Leu Cys Phe Pro Glu Thr Ala Lys Thr Ser Asp Asn Ser Lys Asn 1925 1930 1935		
Leu Leu Ser Val Gly Arg Thr His Pro Asp Phe Tyr Thr Gln Thr Gln 1940 1945 1950		
Ala Met Glu Lys Ala Trp Ala Pro Gly Gly Lys Thr Asn His Lys Asp		

1955	1960	1965
Gly Pro Gly Glu Ala Arg Pro Pro Pro Arg Asp Asn Ser Ser Leu His 1970	1975	1980
Ser Ala Gly Ile Pro Cys Glu Lys Glu Leu Gly Lys Val Arg Arg Gly 1985	1990	1995 2000
Val Glu Pro Lys Pro Glu Ala Leu Leu Ala Arg Arg Ser Leu Gln Pro 2005	2010	2015
Pro Gly Ile Glu Ser Glu Lys Ser Glu Lys Leu Ser Ser Phe Pro Ser 2020	2025	2030
Leu Gln Lys Asp Gly Ala Lys Glu Pro Glu Arg Lys Glu Gln Pro Leu 2035	2040	2045
Gln Arg His Pro Ser Ser Ile Pro Pro Pro Pro Leu Thr Ala Lys Asp 2050	2055	2060
Leu Ser Ser Pro Ala Ala Arg Gln His Cys Ser Ser Pro Ser His Ala 2065	2070	2075 2080
Ser Gly Arg Glu Pro Gly Ala Lys Pro Ser Thr Ala Glu Pro Ser Ser 2085	2090	2095
Ser Pro Gln Asp Pro Pro Lys Pro Val Ala Ala His Ser Glu Ser Ser 2100	2105	2110
Ser His Lys Pro Arg Pro Gly Pro Asp Pro Gly Pro Pro Lys Thr Lys 2115	2120	2125
His Pro Asp Arg Ser Leu Ser Ser Gln Lys Pro Ser Val Gly Ala Thr 2130	2135	2140
Lys Gly Lys Glu Pro Ala Thr Gln Ser Leu Gly Gly Ser Ser Arg Glu 2145	2150	2155 2160
Gly Lys Gly His Ser Lys Ser Gly Pro Asp Val Phe Pro Ala Thr Pro 2165	2170	2175
Gly Ser Gln Asn Lys Ala Ser Asp Gly Ile Gly Gln Gly Glu Gly Gly 2180	2185	2190
Pro Ser Val Pro Leu His Thr Asp Arg Ala Pro Leu Asp Ala Lys Pro 2195	2200	2205
Gln Pro Thr Ser Gly Gly Arg Pro Leu Glu Val Leu Glu Lys Pro Val 2210	2215	2220
His Leu Pro Arg Pro Gly His Pro Gly Pro Ser Glu Pro Ala Asp Gln 2225	2230	2235 2240
Lys Leu Ser Ala Val Gly Glu Lys Gln Thr Leu Ser Pro Lys His Pro 2245	2250	2255
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2260	2265	2270
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2275	2280	2285
Arg Arg Ala Glu Gly Lys Lys Cys Thr	Glu Ala Leu Tyr Ala Pro Ala	
2290	2295	2300
Glu Gly Asp Lys Leu Glu Ala Gly Leu	Ser Phe Val His Ser Glu Asn	
2305	2310	2315
Arg Leu Lys Gly Ala Glu Arg Pro Ala	Ala Gly Val Gly Lys Gly Phe	
2325	2330	2335
Pro Glu Ala Arg Gly Lys Gly Pro Gly	Pro Gln Lys Pro Pro Thr Glu	
2340	2345	2350
Ala Asp Lys Pro Asn Gly Met Lys Arg	Ser Pro Ser Ala Thr Gly Gln	
2355	2360	2365
Ser Ser Phe Arg Ser Thr Ala Leu Pro	Glu Lys Ser Leu Ser Cys Ser	
2370	2375	2380
Ser Ser Phe Pro Glu Thr Arg Ala Gly	Val Arg Glu Ala Ser Ala Ala	
2385	2390	2395
Ser Ser Asp Thr Ser Ser Ala Lys Ala	Ala Gly Gly Met Leu Glu Leu	
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Pro Ala Pro Ser Asn Arg Asp His Arg	Lys Ala Gln Pro Ala Gly Glu	
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Gly Arg Thr His Met Thr Lys Ser Asp	Ser Leu Pro Ser Phe Arg Val	
2435	2440	2445
Ser Thr Leu Pro Leu Glu Ser His His	Pro Asp Pro Asn Thr Met Gly	
2450	2455	2460
Gly Ala Ser His Arg Asp Arg Ala Leu	Ser Val Thr Ala Thr Val Gly	
2465	2470	2475
Glu Thr Lys Gly Lys Asp Pro Ala Pro	Ala Gln Pro Pro Pro Ala Arg	
2485	2490	2495
Lys Gln Asn Val Gly Arg Asp Val Thr	Lys Pro Ser Pro Ala Pro Asn	
2500	2505	2510
Thr Asp Arg Pro Ile Ser Leu Ser Asn	Glu Lys Asp Phe Val Val Arg	
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Leu		
2545		

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 Pro Ala Gly Gln Ser Val Asp Phe Pro Trp Ala Ala Val Asp Asn Met  
 35 40 45  
 Met Val Arg Lys Gly Asp Thr Ala Asp Leu Arg Cys Tyr Leu Glu Asp  
 50 55 60  
 Gly Ala Ser Lys Gly Ala Trp Leu Asn Arg Ser Ser Ile Ile Phe Ala  
 65 70 75 80  
 Gly Gly Asp Lys Trp Ser Val Asp Pro Arg Val Ser Ile Ser Thr Leu  
 85 90 95  
 Asn Lys Arg Asp Tyr Ser Leu Gln Ile Gln Asn Val Asp Val Thr Asp  
 100 105 110  
 Asp Gly Pro Tyr Thr Cys Ser Val Gln Thr Gln His Thr Pro Arg Thr  
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Met Gln Val His Leu Thr Val Gln Val Pro Pro Lys Ile Tyr Asp Ile  
 130 135 140  
 Ser Asn Asp Met Thr Val Asn Glu Gly Thr Asn Val Thr Leu Thr Cys  
 145 150 155 160  
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 Pro Ser Ala Lys Pro Phe Glu Asn Gly Gln Tyr Leu Asp Ile Tyr Gly  
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 Val Ser Phe Pro Asp Val Arg Lys Val Lys Val Val Val Asn Phe Ala  
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 Pro Thr Ile Gln Glu Ile Lys Ser Gly Thr Val Thr Pro Gly Arg Ser  
 225 230 235 240  
 Gly Leu Ile Arg Cys Glu Gly Ala Gly Val Pro Pro Pro Ala Phe Glu  
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<211> 1024

<212> PRT

<213> Homo sapiens

<400> 16

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 Ala Ala Gly Glu Asp Glu Leu Thr Leu Arg Leu Gly Asp Val Val Glu  
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 Val Leu Ser Lys Asp Ser Gln Val Ser Gly Asp Glu Gly Trp Trp Thr  
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 Gly Gln Leu Asn Gln Arg Val Gly Ile Phe Pro Ser Asn Tyr Val Thr  
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 Pro Arg Ser Ala Phe Ser Ser Arg Cys Gln Pro Gly Gly Glu Ile Asp  
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 Phe Ala Glu Leu Thr Leu Glu Glu Ile Ile Gly Ile Gly Gly Phe Gly  
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 Lys Val Tyr Arg Ala Phe Trp Ile Gly Asp Glu Val Ala Val Lys Ala  
 145 150 155 160  
 Ala Arg His Asp Pro Asp Glu Asp Ile Ser Gln Thr Ile Glu Asn Val  
 165 170 175  
 Arg Gln Glu Ala Lys Leu Phe Ala Met Leu Lys His Pro Asn Ile Ile  
 180 185 190  
 Ala Leu Arg Gly Val Cys Leu Lys Glu Pro Asn Leu Cys Leu Val Met  
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 Met Asn Tyr Leu His Asp Glu Ala Ile Val Pro Ile Ile His Arg Asp  
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 Ala Pro Glu Val Ile Arg Ala Ser Met Phe Ser Lys Gly Ser Asp Val  
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Trp Ser Tyr Gly Val Leu Leu Trp Glu Leu Leu Thr Gly Glu Val Pro  
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 Phe Arg Gly Ile Asp Gly Leu Ala Val Ala Tyr Gly Val Ala Met Asn  
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 Lys Leu Ala Leu Pro Ile Pro Ser Thr Cys Pro Glu Pro Phe Ala Lys  
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 Leu Met Glu Asp Cys Trp Asn Pro Asp Pro His Ser Arg Pro Ser Phe  
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 Gln Glu Glu Leu Leu Arg Arg Arg Glu Gln Glu Leu Ala Glu Arg Glu  
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 Gln Glu Lys Pro Arg Val Lys Lys Arg Lys Gly Lys Phe Arg Lys Ser  
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 Arg Leu Lys Leu Lys Asp Gly Asn Arg Ile Ser Leu Pro Ser Gly Phe  
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 Gln His Lys Phe Thr Val Gln Ala Ser Pro Thr Met Asp Lys Arg Lys  
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 580 585 590  
 Ala Pro Lys Lys Lys Gly Arg Thr Trp Gly Pro Gly Thr Leu Gly Gln  
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 Lys Glu Leu Ala Ser Gly Asp Glu Leu Lys Ser Leu Val Asp Gly Tyr  
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Lys Gln Trp Ser Ser Ser Ala Pro Asn Leu Val Lys Gly Pro Arg Ser  
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 Thr Pro Ala Leu Pro Gly Phe Thr Ser Leu Met Glu Met Glu Asp Glu  
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 Glu Ala Pro Pro Leu Ser Pro Cys Thr His Asn Pro Leu Val Asn Val  
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 Asn Val Val Phe Pro Pro Thr Pro Arg Arg Trp Asn Thr Gln Gln Asp  
 915 920 925

Ser Thr Leu Glu Arg Pro Lys Thr Leu Glu Phe Leu Pro Arg Pro Arg  
 930 935 940  
 Pro Ser Ala Asn Arg Gln Arg Leu Asp Pro Trp Trp Phe Val Ser Pro  
 945 950 955 960  
 Ser His Ala Arg Ser Thr Ser Pro Ala Asn Ser Ser Ser Thr Glu Thr  
 965 970 975  
 Pro Gly Pro Leu Pro Pro Thr Glu Arg Thr Leu Leu Asp Leu Asp Ala  
 980 985 990  
 Glu Gly Gln Ser Gln Asp Ser Thr Val Pro Leu Cys Arg Ala Glu Leu  
 995 1000 1005  
 Asn Thr His Arg Pro Ala Pro Tyr Glu Ile Gln Gln Glu Phe Trp Ser  
 1010 1015 1020

<210> 17  
 <211> 834  
 <212> DNA  
 <213> Homo sapiens

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 ccaggacgac cagggttttg ctctcaactt cacgtgccgc tgcttggtgg gctttgtggg 180  
 tgcccgtgtg gaggtaaatg tggatgactg cctgatgcgg ccttggtgta acggtgccac 240  
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 ctgcaccatc aacctggatg actgtgccag ccgcccacgc cagagagggg cccgctgtcg 360  
 ggaccgtgtc cagcacttcg actgcctctg cccagtggtg tatggtggca agacctgtga 420  
 gcttggtctta cctgtcccag acccccacac cacagtggac acccctctag ggcccacctc 480  
 agctgtagtg gtacctgcca cggggccagc ccccccacag gcaggggctg gtctgctgcg 540  
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 ctatgctcca gcgtgccagg accaggagtg tcaggttagc atgctgccag cagggtctcc 780  
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 <211> 204  
 <212> PRT  
 <213> Homo sapiens

<400> 18  
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Asn Leu Asp Asp Cys Ala Ser Arg Pro Cys Gln Arg Gly Ala Arg Cys  
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 Arg Asp Arg Val His Asp Phe Asp Cys Leu Cys Pro Ser Gly Tyr Gly  
                   50                                  55                                  60  
 Gly Lys Thr Cys Glu Leu Val Leu Pro Val Pro Asp Pro Pro Thr Thr  
                   65                                  70                                  75                                  80  
 Val Asp Thr Pro Leu Gly Pro Thr Ser Ala Val Val Val Pro Ala Thr  
                                   85                                  90                                  95  
 Gly Pro Ala Pro His Ser Ala Gly Ala Gly Leu Leu Arg Ile Ser Val  
                                   100                                  105                                  110  
 Lys Glu Val Val Arg Arg Gln Glu Ala Gly Leu Gly Glu Pro Ser Leu  
                   115                                  120                                  125  
 Val Ala Leu Val Val Phe Gly Ala Leu Thr Ala Ala Leu Val Leu Ala  
                   130                                  135                                  140  
 Thr Val Leu Leu Thr Leu Arg Ala Trp Arg Arg Gly Val Cys Pro Pro  
                   145                                  150                                  155                                  160  
 Gly Pro Cys Cys Tyr Pro Ala Pro His Tyr Ala Pro Ala Cys Gln Asp  
                                   165                                  170                                  175  
 Gln Glu Cys Gln Val Ser Met Leu Pro Ala Gly Leu Pro Leu Pro Arg  
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 <211> 3981  
 <212> DNA  
 <213> Homo sapiens

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<210> 20

<211> 1257

<212> PRT

<213> Homo sapiens

<400> 20

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			20					25					30			
Ser	Ser	Asp	Asn	Thr	Lys	Trp	Gln	Thr	Lys	Trp	Phe	Ala	Leu	Leu	Gln	
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Asn	Leu	Leu	Phe	Tyr	Phe	Glu	Ser	Asp	Ser	Ser	Ser	Arg	Pro	Ser	Gly	
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Leu	Tyr	Leu	Leu	Glu	Gly	Cys	Val	Cys	Asp	Arg	Ala	Pro	Ser	Pro	Lys	
	65				70					75					80	
Pro	Ala	Leu	Ser	Ala	Lys	Glu	Pro	Leu	Glu	Lys	Gln	His	Tyr	Phe	Thr	
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Val	Asn	Phe	Ser	His	Glu	Asn	Gln	Lys	Ala	Leu	Glu	Leu	Arg	Thr	Glu	
			100					105						110		
Asp	Ala	Lys	Asp	Cys	Asp	Glu	Trp	Val	Ala	Ala	Ile	Ala	His	Ala	Ser	
		115					120					125				
Tyr	Arg	Thr	Leu	Ala	Thr	Glu	His	Glu	Ala	Leu	Met	Gln	Lys	Tyr	Leu	
	130					135					140					
His	Leu	Leu	Gln	Ile	Val	Glu	Thr	Glu	Lys	Thr	Val	Ala	Lys	Gln	Leu	
	145				150					155					160	
Arg	Gln	Gln	Ile	Glu	Asp	Gly	Glu	Ile	Glu	Ile	Glu	Arg	Leu	Lys	Ala	
				165					170					175		
Glu	Ile	Thr	Ser	Leu	Leu	Lys	Asp	Asn	Glu	Arg	Ile	Gln	Ser	Thr	Gln	
			180					185					190			
Thr	Val	Ala	Pro	Asn	Asp	Glu	Asp	Ser	Asp	Ile	Lys	Lys	Ile	Lys	Lys	
		195					200					205				
Val	Gln	Ser	Phe	Leu	Arg	Gly	Trp	Leu	Cys	Arg	Arg	Lys	Trp	Lys	Thr	
	210					215					220					
Ile	Ile	Gln	Asp	Tyr	Ile	Arg	Ser	Pro	His	Ala	Asp	Ser	Met	Arg	Lys	
	225				230					235					240	
Arg	Asn	Gln	Val	Val	Phe	Ser	Met	Leu	Glu	Ala	Glu	Ala	Glu	Tyr	Val	
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Gln	Gln	Leu	His	Ile	Leu	Val	Asn	Asn	Phe	Leu	Arg	Pro	Leu	Arg	Met	
			260					265					270			
Ala	Ala	Ser	Ser	Lys	Lys	Pro	Pro	Ile	Thr	His	Asp	Asp	Val	Ser	Ser	
		275					280					285				
Ile	Phe	Leu	Asn	Ser	Glu	Thr	Ile	Met	Phe	Leu	His	Gln	Ile	Phe	Tyr	
	290					295					300					

Gln Gly Leu Lys Ala Arg Ile Ser Ser Trp Pro Thr Leu Val Leu Ala  
 305 310 315 320  
 Asp Leu Phe Asp Ile Leu Leu Pro Met Leu Asn Ile Tyr Gln Glu Phe  
 325 330 335  
 Val Arg Asn His Gln Tyr Ser Leu Gln Ile Leu Ala His Cys Lys Gln  
 340 345 350  
 Asn Arg Asp Phe Asp Lys Leu Leu Lys His Tyr Glu Ala Lys Pro Asp  
 355 360 365  
 Cys Glu Glu Arg Thr Leu Glu Thr Phe Leu Thr Tyr Pro Met Phe Gln  
 370 375 380  
 Ile Pro Arg Tyr Ile Leu Thr Leu His Glu Leu Leu Ala His Thr Pro  
 385 390 395 400  
 His Glu His Val Glu Arg Asn Ser Leu Asp Tyr Ala Lys Ser Lys Leu  
 405 410 415  
 Glu Glu Leu Ser Arg Ile Met His Asp Glu Val Ser Glu Thr Glu Asn  
 420 425 430  
 Ile Arg Lys Asn Leu Ala Ile Glu Arg Met Ile Ile Glu Gly Cys Glu  
 435 440 445  
 Ile Leu Leu Asp Thr Ser Gln Thr Phe Val Arg Gln Gly Ser Leu Ile  
 450 455 460  
 Gln Val Pro Met Ser Glu Lys Gly Lys Ile Thr Arg Gly Arg Leu Gly  
 465 470 475 480  
 Ser Leu Ser Leu Lys Lys Glu Gly Glu Arg Gln Cys Phe Leu Phe Ser  
 485 490 495  
 Lys His Leu Ile Ile Cys Thr Arg Gly Ser Gly Gly Lys Leu His Leu  
 500 505 510  
 Thr Lys Asn Gly Val Ile Ser Leu Ile Asp Cys Thr Leu Leu Glu Glu  
 515 520 525  
 Pro Glu Ser Thr Glu Glu Glu Ala Lys Gly Ser Gly Gln Asp Ile Asp  
 530 535 540  
 His Leu Asp Phe Lys Ile Gly Val Glu Pro Lys Asp Ser Pro Pro Phe  
 545 550 555 560  
 Thr Val Ile Leu Val Ala Ser Ser Arg Gln Glu Lys Ala Ala Trp Thr  
 565 570 575  
 Ser Asp Ile Ser Gln Cys Val Asp Asn Ile Arg Cys Asn Gly Leu Met  
 580 585 590  
 Met Asn Ala Phe Glu Glu Asn Ser Lys Val Thr Val Pro Gln Met Ile  
 595 600 605

Lys Ser Asp Ala Ser Leu Tyr Cys Asp Asp Val Asp Ile Arg Phe Ser  
 610 615 620  
 Lys Thr Met Asn Ser Cys Lys Val Leu Gln Ile Arg Tyr Ala Ser Val  
 625 630 635 640  
 Glu Arg Leu Leu Glu Arg Leu Thr Asp Leu Arg Phe Leu Ser Ile Asp  
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 Phe Leu Asn Thr Phe Leu His Ser Tyr Arg Val Phe Thr Thr Ala Ile  
 660 665 670  
 Val Val Leu Asp Lys Leu Ile Thr Ile Tyr Lys Lys Pro Ile Ser Ala  
 675 680 685  
 Ile Pro Ala Arg Ser Leu Glu Leu Leu Phe Ala Ser Gly Gln Asn Asn  
 690 695 700  
 Lys Leu Leu Tyr Gly Glu Pro Pro Lys Ser Pro Arg Ala Thr Arg Lys  
 705 710 715 720  
 Phe Ser Ser Pro Pro Pro Leu Ser Ile Thr Lys Thr Ser Ser Pro Ser  
 725 730 735  
 Arg Arg Arg Lys Leu Ser Leu Asn Ile Pro Ile Ile Thr Gly Gly Lys  
 740 745 750  
 Ala Leu Asp Leu Ala Ala Leu Ser Cys Asn Ser Asn Gly Tyr Thr Ser  
 755 760 765  
 Met Tyr Ser Ala Met Ser Pro Phe Ser Lys Ala Thr Leu Asp Thr Ser  
 770 775 780  
 Lys Leu Tyr Val Ser Ser Ser Phe Thr Asn Lys Ile Pro Asp Glu Gly  
 785 790 795 800  
 Asp Thr Thr Pro Glu Lys Pro Glu Asp Pro Ser Ala Leu Ser Lys Gln  
 805 810 815  
 Ser Ser Glu Val Ser Met Arg Glu Glu Ser Asp Ile Asp Gln Asn Gln  
 820 825 830  
 Ser Asp Asp Gly Asp Thr Glu Thr Ser Pro Thr Lys Ser Pro Thr Thr  
 835 840 845  
 Pro Lys Ser Val Lys Asn Lys Asn Ser Ser Glu Phe Pro Leu Phe Ser  
 850 855 860  
 Tyr Asn Asn Gly Val Val Met Thr Ser Cys Arg Glu Leu Asp Asn Asn  
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 Arg Ser Ala Leu Ser Ala Ala Ser Ala Phe Ala Ile Ala Thr Ala Gly  
 885 890 895  
 Ala Asn Glu Gly Thr Pro Asn Lys Glu Lys Tyr Arg Arg Met Ser Leu  
 900 905 910



Ala	Ser	Ala	Gly	Phe	Pro	Pro	Asp	Gln	Arg	Asn	Gly	Asp	Lys	Glu	Phe	915	920	925
Val	Ile	Arg	Arg	Ala	Ala	Thr	Asn	Arg	Val	Leu	Asn	Val	Leu	Arg	His	930	935	940
Trp	Val	Ser	Lys	His	Ser	Gln	Asp	Phe	Glu	Thr	Asn	Asp	Glu	Leu	Lys	945	950	955
Cys	Lys	Val	Ile	Gly	Phe	Leu	Glu	Glu	Val	Met	His	Asp	Pro	Glu	Leu	965	970	975
Leu	Thr	Gln	Glu	Arg	Lys	Ala	Ala	Ala	Asn	Ile	Ile	Arg	Thr	Leu	Thr	980	985	990
Gln	Glu	Asp	Pro	Gly	Asp	Asn	Gln	Ile	Thr	Leu	Glu	Glu	Ile	Thr	Gln	995	1000	1005
Met	Ala	Glu	Gly	Val	Lys	Ala	Glu	Pro	Phe	Glu	Asn	His	Ser	Ala	Leu	1010	1015	1020
Glu	Ile	Ala	Glu	Gln	Leu	Thr	Leu	Leu	Asp	His	Leu	Val	Phe	Lys	Lys	1025	1030	1035
Ile	Pro	Tyr	Glu	Glu	Phe	Phe	Gly	Gln	Gly	Trp	Met	Lys	Leu	Glu	Lys	1045	1050	1055
Asn	Glu	Arg	Thr	Pro	Tyr	Ile	Met	Lys	Thr	Thr	Lys	His	Phe	Asn	Asp	1060	1065	1070
Ile	Ser	Asn	Leu	Ile	Ala	Ser	Glu	Ile	Ile	Arg	Asn	Glu	Asp	Ile	Asn	1075	1080	1085
Ala	Arg	Val	Ser	Ala	Ile	Glu	Lys	Trp	Val	Ala	Val	Ala	Asp	Ile	Cys	1090	1095	1100
Arg	Cys	Leu	His	Asn	Tyr	Asn	Ala	Val	Leu	Glu	Ile	Thr	Ser	Ser	Met	1105	1110	1115
Asn	Arg	Ser	Ala	Ile	Phe	Arg	Leu	Lys	Lys	Thr	Trp	Leu	Lys	Val	Ser	1125	1130	1135
Lys	Gln	Thr	Lys	Ala	Leu	Ile	Asp	Lys	Leu	Gln	Lys	Leu	Val	Ser	Ser	1140	1145	1150
Glu	Gly	Arg	Phe	Lys	Asn	Leu	Arg	Glu	Ala	Leu	Lys	Asn	Cys	Asp	Pro	1155	1160	1165
Pro	Cys	Val	Pro	Tyr	Leu	Gly	Met	Tyr	Leu	Thr	Asp	Leu	Ala	Phe	Ile	1170	1175	1180
Glu	Glu	Gly	Thr	Pro	Asn	Tyr	Thr	Glu	Asp	Gly	Leu	Val	Asn	Phe	Ser	1185	1190	1195
Lys	Met	Arg	Met	Ile	Ser	His	Ile	Ile	Arg	Glu	Ile	Arg	Gln	Phe	Gln	1205	1210	1215

Gln Thr Ala Tyr Lys Ile Glu His Gln Ala Lys Val Thr Gln Tyr Leu  
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Leu Asp Gln Ser Phe Val Met Asp Glu Glu Ser Leu Tyr Glu Ser Ser  
1235 1240 1245

Leu Arg Ile Glu Pro Lys Leu Pro Thr  
1250 1255

<210> 21  
<211> 480  
<212> DNA  
<213> Homo sapiens

<400> 21  
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<210> 22  
<211> 157  
<212> PRT  
<213> Homo sapiens

<400> 22  
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Ala Gly Lys Val Ser Leu Leu Glu Lys Ile Cys Ile Leu Pro Asn Arg  
35 40 45  
Gly Leu Ala Arg Thr Lys Val Pro Ile Phe Leu Gly Ile Gln Gly Gly  
50 55 60  
Ser Arg Cys Leu Ala Cys Val Glu Thr Glu Glu Gly Pro Ser Leu Gln  
65 70 75 80  
Leu Glu Gln Pro Val Asn Ile Met Glu Leu Tyr Leu Gly Ala Lys Glu  
85 90 95  
Ser Lys Ser Phe Thr Phe Tyr Arg Arg Asp Met Gly Leu Thr Ser Ser  
100 105 110  
Phe Glu Ser Ala Ala Tyr Pro Gly Trp Phe Leu Cys Thr Val Pro Glu  
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Ala Asp Gln Pro Val Arg Leu Thr Gln Leu Pro Glu Asn Gly Gly Trp  
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Asn Ala Pro Ile Thr Asp Phe Tyr Phe Gln Gln Cys Asp  
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<210> 23  
 <211> 1599  
 <212> DNA  
 <213> Homo sapiens

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 aagataaaaa gatccatgac cagaactgcc ctttggcaaa tgtcatctgt gagtactgca 660  
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 cagccccaat tccatgcaca ttccgtactt ttcgtagcca tgaaaagatg cggaggaatc 780  
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 tgcactgtga ggtctccacc cgctttgaca tggatagcct tcagagggag ggttttcagg 1560  
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<210> 24  
 <211> 526  
 <212> PRT  
 <213> Homo sapiens

<400> 24  
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 35 40 45

Phe Met Glu Glu Ile Gln Gly Tyr Asp Val Glu Phe Gly Pro Pro Leu  
50 55 60  
Glu Ser Lys Tyr Glu Cys Pro Ile Cys Leu Met Ala Leu Arg Glu Ala  
65 70 75 80  
Val Gln Thr Pro Cys Ser His Arg Phe Cys Lys Ala Cys Ile Ile Lys  
85 90 95  
Ser Ile Arg Asp Ala Gly His Lys Tyr Pro Val Asp Asn Glu Ile Leu  
100 105 110  
Leu Glu Asn Lys Leu Phe Pro Asp Asn Phe Ala Lys Arg Glu Ile Ile  
115 120 125  
Ser Leu Ile Val Lys Cys Pro Asn Glu Gly Cys Leu His Lys Met Glu  
130 135 140  
Leu Arg His Leu Glu Asp His Gln Thr His Cys Glu Phe Ala Leu Met  
145 150 155 160  
Asp Cys Pro Gln Cys Gln Pro Pro Phe Gln Lys Phe His Ile Asn Ile  
165 170 175  
Tyr Ile Met Lys Gly Cys Pro Arg Arg Gln Val Ser Cys Asp Asn Cys  
180 185 190  
Ala Ala Ser Met Ala Phe Glu Asp Lys Lys Ile His Asp Gln Asn Cys  
195 200 205  
Pro Leu Ala Asn Val Ile Cys Glu Tyr Cys Asn Thr Ile Leu Ile Arg  
210 215 220  
Glu Gln Met Pro Asn Phe Met Thr Tyr Asp Leu Asp Arg Pro Thr Ala  
225 230 235 240  
Pro Ile Pro Cys Thr Phe Arg Thr Phe Arg Ser His Glu Lys Met Arg  
245 250 255  
Arg Asn His Leu Ala Arg His Leu Gln Glu Asn Thr Gln Ser Asn Met  
260 265 270  
Arg Met Leu Ala Gln Ala Val His Ser Leu Ser Leu Ile Pro Asp Ser  
275 280 285  
Gly Tyr Ile Ser Glu Val Arg Asn Phe Gln Glu Ser Ile His Gln Leu  
290 295 300  
Glu Gly Arg Leu Val Arg Gln Cys His Gln Ile Arg Glu Leu Thr Asp  
305 310 315 320  
Lys Met Glu Thr Gln Ser Met Tyr Val Ser Glu Leu Lys Arg Thr Ile  
325 330 335  
Arg Thr Leu Glu Asp Lys Val Ala Glu Ile Glu Ala Gln Gln Cys Asn  
340 345 350

Gly Ile Tyr Ile Trp Lys Ile Gly Asn Glu Phe Glu Met Leu Arg Arg  
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 Ala Glu Thr Glu Glu Gln Lys Pro Val Val Ile His Ser Pro Gly Phe  
 370 375 380  
 Tyr Thr Gly Lys His Arg Tyr Lys Leu Cys Met Arg Leu His Leu Pro  
 385 390 395 400  
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 405 410 415  
 Thr Met Gln Gly Glu Tyr Asp Ser His Leu Pro Trp Pro Phe Gln Asp  
 420 425 430  
 Thr Ile Cys Leu Thr Ile Leu Asp Gln Ser Gln Ala Pro Val Arg Gln  
 435 440 445  
 Asn His Glu Glu Ile Met Asp Ala Lys Pro Glu Leu Leu Ala Phe Gln  
 450 455 460  
 Arg Pro Thr Ile Pro Arg Asn Pro Lys Gly Phe Gly Tyr Val Thr Phe  
 465 470 475 480  
 Met His Leu Glu Ala Leu Arg Gln Arg Thr Phe Ile Lys Asp Asp Thr  
 485 490 495  
 Leu Leu Val His Cys Glu Val Ser Thr Arg Phe Asp Met Asp Ser Leu  
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 Gln Arg Glu Gly Phe Gln Pro Gln Ser Thr Asp Ala Gly Val  
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<210> 25  
 <211> 1097  
 <212> DNA  
 <213> Homo sapiens

<400> 25  
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 cctccacacc cccatgtact tcttcatcag ccagctcgcg ctcattggatc tcatgtacct 240  
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<210> 26  
 <211> 318  
 <212> PRT  
 <213> Homo sapiens

<400> 26  
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                     20                    25                    30  
 Tyr Thr Val Thr Phe Leu Leu Phe Leu Met Ala Leu Thr Gly Asn Ala  
                     35                    40                    45  
 Leu Leu Ile Leu Leu Ile His Ser Glu Pro Arg Leu His Thr Pro Met  
                     50                    55                    60  
 Tyr Phe Phe Ile Ser Gln Leu Ala Leu Met Asp Leu Met Tyr Leu Cys  
                     65                    70                    75                    80  
 Val Thr Val Pro Lys Met Leu Val Gly Gln Val Thr Gly Asp Asp Thr  
                     85                    90                    95  
 Ile Ser Pro Ser Gly Cys Gly Ile Gln Met Phe Phe Tyr Leu Thr Leu  
                     100                    105                    110  
 Ala Gly Ala Glu Val Phe Leu Leu Ala Ala Met Ala Tyr Asp Arg Tyr  
                     115                    120                    125  
 Ala Ala Val Cys Arg Pro Leu His Tyr Pro Leu Leu Met Asn Gln Arg  
                     130                    135                    140  
 Val Cys Gln Leu Leu Val Ser Ala Cys Trp Val Leu Gly Met Val Asp  
                     145                    150                    155                    160  
 Gly Leu Leu Leu Thr Pro Ile Thr Met Ser Phe Pro Phe Cys Gln Ser  
                     165                    170                    175  
 Arg Lys Ile Leu Ser Phe Phe Cys Glu Thr Pro Ala Leu Leu Lys Leu  
                     180                    185                    190  
 Ser Cys Ser Asp Val Ser Leu Tyr Lys Thr Leu Met Tyr Leu Cys Cys  
                     195                    200                    205  
 Ile Leu Met Leu Leu Ala Pro Thr Met Val Ile Ser Ser Ser Tyr Thr  
                     210                    215                    220  
 Leu Ile Leu His Leu Ile His Arg Met Asn Ser Ala Ala Gly His Arg  
                     225                    230                    235                    240  
 Lys Ala Leu Ala Thr Cys Ser Ser His Met Ile Ile Val Leu Leu Leu  
                     245                    250                    255

Phe Gly Ala Ser Phe Tyr Thr Tyr Met Leu Pro Ser Ser Tyr His Thr  
260 265 270

Ala Glu Gln Asp Met Met Val Ser Ala Phe Tyr Thr Ile Phe Thr Pro  
275 280 285

Val Leu Asn Pro Leu Ile His Ser Leu Arg Asn Lys Asp Val Thr Arg  
290 295 300

Ala Leu Arg Ser Met Met Gln Ser Arg Met Asn Gln Glu Lys  
305 310 315

<210> 27

<211> 1606

<212> DNA

<213> Homo sapiens

<400> 27

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acaatcctgg ataaacttat gcagataagt catgaggtga ctgttctaac attgtcagct 180
tccattcttg ttgatcccaa cataacatct gttactaaat ttgaggttta ttctatatct 240
gtaattaaag atgattttgc agggtttttt ttcacacaac agattactaa atggatacat 300
gatcttccaa aacatatatt ttggtttaaa tgtgttcctt tcaagaatat tctttgggaa 360
tattctgggtt atactgagaa gttctttaaa gatgtagttt tgaacaagaa acttatgaca 420
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tattttgact tttggttcca aacatttgat atgaagaagg gagaccagtt ttacagtga 720
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<210> 28

<211> 533

<212> PRT

<213> Homo sapiens

<400> 28

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 Tyr Ser Pro Trp Met Asn Ile Lys Thr Ile Leu Asp Lys Leu Met Gln  
 35 40 45  
 Ile Ser His Glu Val Thr Val Leu Thr Leu Ser Ala Ser Ile Leu Val  
 50 55 60  
 Asp Pro Asn Ile Thr Ser Val Thr Lys Phe Glu Val Tyr Ser Ile Ser  
 65 70 75 80  
 Val Ile Lys Asp Asp Phe Ala Gly Phe Phe Phe Thr Gln Gln Ile Thr  
 85 90 95  
 Lys Trp Ile His Asp Leu Pro Lys His Ile Phe Trp Phe Lys Cys Val  
 100 105 110  
 Pro Phe Lys Asn Ile Leu Trp Glu Tyr Ser Gly Tyr Thr Glu Lys Phe  
 115 120 125  
 Phe Lys Asp Val Val Leu Asn Lys Lys Leu Met Thr Asn Leu Gln Glu  
 130 135 140  
 Ser Arg Ser Asp Val Val His Ala Asn Ala Ile Gly Pro Phe Gly Glu  
 145 150 155 160  
 Leu Leu Ala Glu Leu Leu Lys Ile Ser Phe Val Tyr Ser Leu His Phe  
 165 170 175  
 Ser Pro Gly Tyr Thr Phe Glu Lys Tyr Ser Gly Gly Phe Leu Leu Pro  
 180 185 190  
 Pro Ser Tyr Gly Ala Val Ile Leu Ser Glu Leu Ser Gly Ser Met Thr  
 195 200 205  
 Phe Met Glu Thr Val Arg Asn Ile Ile Tyr Val Phe Tyr Phe Asp Phe  
 210 215 220  
 Trp Phe Gln Thr Phe Asp Met Lys Lys Gly Asp Gln Phe Tyr Ser Glu  
 225 230 235 240  
 Val Leu Gly Lys Ser Cys Phe Leu Ser Glu Ile Met Gly Lys Ala Glu  
 245 250 255  
 Met Trp Leu Ile Arg Asn Tyr Trp Tyr Leu Glu Phe Pro Arg Pro Leu  
 260 265 270  
 Leu Pro Asn Phe Glu Phe Val Val Arg Leu Tyr Cys Lys Pro Val Asn  
 275 280 285  
 Pro Leu Pro Lys Glu Lys Met Glu Glu Phe Ala Gln Ser Ser Asp Glu  
 290 295 300  
 Asp Gly Val Val Phe Ser Leu Glu Ser Ala Val Gln Asn Leu Thr Glu  
 305 310 315 320



Glu Lys Ala Asp Leu Ile Thr Ser Ala Leu Ala Gln Ile Pro Gln Lys  
 325 330 335  
 Val Met Lys Phe Gly Arg Lys Pro Asn Thr Leu Arg Ser Asn Thr Gln  
 340 345 350  
 Trp His Arg Trp Ile Pro Gln Asn Glu Cys Leu Ile Leu Asp His Pro  
 355 360 365  
 Gln Thr Lys Ala Phe Ile Thr Tyr Gly Gly Thr Asn Ser Ile Tyr Glu  
 370 375 380  
 Met Ile Tyr Arg Gly Val Pro Ser Met Gly Ile Pro Leu Phe Ala Asp  
 385 390 395 400  
 Gln His Asp Asn Ile Ala His Met Lys Ala Lys Gly Ala Ala Val Ile  
 405 410 415  
 Leu Asp Leu Ser Thr Lys Ser Ser Thr Asp Leu Leu Asp Ile Ser Val  
 420 425 430  
 Phe Val Ser Leu Phe Leu Ser Phe Arg Tyr Lys Glu Ser Val Met Lys  
 435 440 445  
 Leu Ser Arg Ile Gln His Asp Gln Pro Val Lys Pro Leu Asp Arg Ala  
 450 455 460  
 Val Phe Trp Ile Glu Phe Val Met Arg His Lys Gly Ala Lys His Leu  
 465 470 475 480  
 Arg Val Ala Ala Arg Asp Leu Thr Trp Phe Gln Tyr His Ser Leu Asp  
 485 490 495  
 Val Ile Gly Phe Leu Leu Ala Cys Val Ala Thr Val Thr Phe Ile Ile  
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 Thr Lys Cys Cys Leu Phe Cys Phe Trp Lys Phe Thr Arg Lys Val Lys  
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 Lys Glu Lys Arg Asp  
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<210> 29

<211> 1726

<212> DNA

<213> Homo sapiens

<400> 29

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 cggtcgggga caggagcgga aggggcagaa gctccctgcg gtgtggcccc ccaagcacgc 360  
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<210> 30

<211> 307

<212> PRT

<213> Homo sapiens

<400> 30

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Met Ala Gln Lys Gly Val Leu Gly Pro Gly Gln Leu Gly Ala Val Ala
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Ile Leu Leu Tyr Leu Gly Leu Leu Arg Ser Gly Thr Gly Ala Glu Gly
      20                      25                      30

```

```

Ala Glu Ala Pro Cys Gly Val Ala Pro Gln Ala Arg Ile Thr Gly Gly
      35                      40                      45

```

```

Ser Ser Ala Val Ala Gly Gln Trp Pro Trp Gln Val Ser Ile Thr Tyr
      50                      55                      60

```

```

Glu Gly Val His Val Cys Gly Gly Ser Leu Val Ser Glu Gln Trp Val
      65                      70                      75                      80

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```

Leu Ser Ala Ala His Cys Phe Pro Ser Glu His His Lys Gly Ser Gln
      85                      90                      95

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```

Gly Asp Ile Ala Leu Leu Gln Leu Ser Arg Pro Thr Ser Tyr Ser Arg
      100                      105                      110

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```

Tyr Ile Arg Pro Ile Cys Leu Pro Ala Ala Asn Ala Ser Phe Pro Asn
      115                      120                      125

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Gly Leu His Cys Thr Val Thr Gly Trp Gly His Val Ala Pro Ser Val
      130                      135                      140

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Ser Leu Leu Thr Pro Lys Pro Leu Gln Gln Leu Glu Val Pro Leu Ile  
145 150 155 160

Ser Arg Glu Thr Cys Asn Cys Leu Tyr Asn Ile Asp Ala Lys Pro Glu  
165 170 175

Glu Pro His Phe Val Gln Glu Asp Met Val Cys Ala Gly Tyr Val Glu  
180 185 190

Gly Gly Lys Asp Ala Cys Gln Gly Asp Ser Gly Asp Pro Leu Ser Cys  
195 200 205

Pro Val Glu Gly Leu Trp Tyr Leu Thr Gly Ile Val Ser Trp Gly Asp  
210 215 220

Ala Cys Gly Ala Arg Asn Arg Pro Gly Val Tyr Thr Leu Ala Ser Ser  
225 230 235 240

Tyr Ala Ser Trp Ile Gln Ser Lys Val Thr Glu Leu Gln Pro Arg Val  
245 250 255

Val Pro Gln Thr Gln Glu Ser Gln Pro Asp Ser Asn Leu Cys Gly Ser  
260 265 270

His Leu Ala Phe Ser Ser Ala Pro Ala Gln Gly Leu Leu Arg Pro Ile  
275 280 285

Leu Phe Leu Pro Leu Gly Leu Ala Leu Gly Leu Leu Ser Pro Trp Leu  
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Ser Glu His  
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<210> 31

<211> 1161

<212> DNA

<213> Homo sapiens

<400> 31

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<210> 32  
 <211> 386  
 <212> PRT  
 <213> Homo sapiens

<400> 32  
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 Ala Glu Gly Asn Ala Gln Ile Gly Val Val Glu Thr Asp Thr Val Val  
 35 40 45  
 Asp Ser Gly Thr Ile Val Arg Leu Gly Ser Ile Gly Glu His Gly Gly  
 50 55 60  
 Gly Trp Gly Val Leu Gly Ser Glu Ala Met Pro Asn Ser Ala Ser Arg  
 65 70 75 80  
 Ser Pro Pro Val Tyr Gly Gly Ala Ala Val Pro Ile Lys His Pro Gln  
 85 90 95  
 Ala Lys Gly Ser Leu Pro Asp Thr Pro Cys Gly Val Ala Pro Gln Ala  
 100 105 110  
 Arg Ile Thr Gly Gly Ser Ser Ala Val Ala Gly Gln Trp Pro Trp Gln  
 115 120 125  
 Val Ser Ile Thr Tyr Glu Gly Val His Val Cys Gly Gly Ser Leu Val  
 130 135 140  
 Ser Glu Gln Trp Val Leu Ser Ala Ala His Cys Phe Pro Ser Glu His  
 145 150 155 160  
 His Lys Glu Ala Tyr Glu Val Lys Leu Gly Ala His Gln Leu Asp Ser  
 165 170 175  
 Tyr Ser Glu Asp Ala Lys Val Ser Thr Leu Lys Asp Ile Ile Pro His  
 180 185 190  
 Pro Ser Tyr Leu Gln Glu Gly Ser Gln Gly Asp Ile Ala Leu Leu Gln  
 195 200 205  
 Leu Ser Arg Pro Ile Thr Phe Ser Arg Tyr Ile Arg Pro Ile Cys Leu  
 210 215 220  
 Pro Ala Ala Asn Ala Ser Phe Pro Asn Gly Leu His Cys Thr Val Thr  
 225 230 235 240  
 Gly Trp Gly His Val Ala Pro Ser Val Ser Leu Leu Thr Pro Lys Pro

	245		250		255
Leu Gln Gln	Leu Glu Val	Pro Leu Ile	Ser Arg Glu	Thr Cys Asn	Cys
	260		265		270
Leu Tyr Asn	Ile Asp Ala	Lys Pro Glu	Glu Pro His	Phe Val Gln	Glu
	275		280		285
Asp Met Val	Cys Ala Gly	Tyr Val Glu	Gly Gly Lys	Asp Ala Cys	Gln
	290		295		300
Gly Asp Ser	Gly Gly Pro	Leu Ser Cys	Pro Val Glu	Gly Leu Trp	Tyr
305		310		315	320
Leu Thr Gly	Ile Val Ser	Trp Gly Asp	Ala Cys Gly	Ala Arg Asn	Arg
	325		330		335
Pro Gly Val	Tyr Thr Leu	Ala Ser Ser	Tyr Ala Ser	Trp Ile Gln	Ser
	340		345		350
Lys Asp Ser	Ala Gly Gly	Trp Gly Pro	Ile Leu Ile	Phe Glu Pro	Ile
	355		360		365
Leu Leu Gly	Val Leu Phe	Gly Thr Ile	Thr Glu Ser	Gln Glu Phe	Tyr
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Cys Leu					
385					

<210> 33  
 <211> 882  
 <212> DNA  
 <213> Homo sapiens

<400> 33  
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 catgtgtgtg gtggctctct cgtgtctgag cagtgggtgc tgtcagctgc tctactgcttc 180  
 cccagcgagc accacaagga agcctatgag gtcaagctgg gggcccacca gctagactcc 240  
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 ctgcagcaac tcgaggtgcc tctgatcagt cgtgagacgt gtaactgcct gtacaacatc 540  
 gacgccaagc ctgaggagcc gcactttgtc caagaggaca tgggtgtgtg tggctatgtg 600  
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 cctgggtgtg acactctggc ctccagctat gcctcctgga tccaaagcaa ggtgacagaa 780  
 ctccagcctc gtgtggtgcc ccaaaccag gagtcccagc ccgacagcaa cctctgtggc 840  
 agccacctgg ccttcagctc tgccccagcc cagggcgctg ac 882

<210> 34  
 <211> 882  
 <212> DNA  
 <213> Homo sapiens

<400> 34

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catgtgtgtg gtggctctct cgtgtctgag cagtgggtgc tgtcagctgc tctactgcttc 180
cccagcgagc accacaagga agcctatgag gtcaagctgg gggcccacca gctagactcc 240
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caggagggct cccagggcga cattgcactc ctccaactca gcagacccat caccttctcc 360
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tgcactgtca ctggctgggg tcatgtggcc cctcagtgga gcctcctgac gcccaagcca 480
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gacgccaagc ctgaggagcc gcactttgtc caagaggaca tgggtgtgtg tggctatgtg 600
gaggggggca aggacgcctg ccagggtgac tctggggggc cactctcctg ccctgtggag 660
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ctccagcctc gtgtggtgcc ccaaaccag gagtccagc ccgacagcaa cctctgtggc 840
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<210> 35

<211> 2940

<212> DNA

<213> Homo sapiens

<400> 35

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gaggcggccg acaccatcgg ccagatgcgc cgctgcgcgg tggggctagt ggacgcctg 240
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caaggtgtgt ctgaccaagc tgtggccgag gccctgtgct ctataatgct cttagaagag 660
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gccctcaaca gtgccaagct gcaactcagtt cttttcatgg ccagactctg ccagtccttg 1860
ggagagctgt gccccatct gaagcagtg atcctgggaa aatcagagag ctcagagaaa 1920
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ccagcaaggg agtttagggc tctgagaaaa cagggaaagg tgaaaactca ggaaatcatt 1980
cctacacagg ccaagtggca agagggttaaa gaagtactcc tccagcagag cgtgatgggc 2040
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tccacagctg gtgacccgac agttcctggc tccttggttca gacagcttgt cagtgaagaa 2880
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<210> 36

<211> 979

<212> PRT

<213> Homo sapiens

<400> 36

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Met Ala Thr Ala Ala Thr Ser Pro Ala Leu Lys Arg Leu Asp Leu Arg
 1             5             10             15

```

```

Asp Pro Ala Ala Leu Phe Glu Thr His Gly Ala Glu Glu Ile Arg Gly
          20             25             30

```

```

Leu Glu Arg Gln Val Arg Ala Glu Ile Glu His Lys Lys Glu Glu Leu
          35             40             45

```

```

Arg Gln Met Val Gly Glu Arg Tyr Arg Asp Leu Ile Glu Ala Ala Asp
          50             55             60

```

```

Thr Ile Gly Gln Met Arg Arg Cys Ala Val Gly Leu Val Asp Ala Val
          65             70             75             80

```

```

Lys Ala Thr Asp Gln Tyr Cys Ala Arg Leu Arg Gln Ala Gly Ser Ala
          85             90             95

```

```

Ala Pro Arg Pro Pro Arg Ala Gln Gln Pro Gln Gln Pro Ser Gln Glu
          100            105            110

```

```

Lys Phe Tyr Ser Met Ala Ala Gln Ile Lys Leu Leu Leu Glu Ile Pro
          115            120            125

```

```

Glu Lys Ile Trp Ser Ser Met Glu Ala Ser Gln Cys Leu His Ala Thr
          130            135            140

```

```

Gln Leu Tyr Leu Leu Cys Cys His Leu His Ser Leu Leu Gln Leu Asp
          145            150            155            160

```

```

Ser Ser Ser Ser Arg Tyr Ser Pro Val Leu Ser Pro Val Pro Ile Leu
          165            170            175

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Ile	Arg	Gln	Val	Ala	Ala	Ala	Ser	His	Phe	Arg	Ser	Thr	Ile	Leu	His	180	185	190
Glu	Ser	Lys	Met	Leu	Leu	Lys	Cys	Gln	Gly	Val	Ser	Asp	Gln	Ala	Val	195	200	205
Ala	Glu	Ala	Leu	Cys	Ser	Ile	Met	Leu	Leu	Glu	Glu	Ser	Ser	Pro	Arg	210	215	220
Gln	Ala	Leu	Thr	Asp	Phe	Leu	Leu	Ala	Arg	Lys	Ala	Thr	Ile	Gln	Lys	225	230	235
Leu	Leu	Asn	Gln	Pro	His	His	Gly	Ala	Gly	Ile	Lys	Ala	Gln	Ile	Cys	245	250	255
Ser	Leu	Val	Glu	Leu	Leu	Ala	Thr	Thr	Leu	Lys	Gln	Ala	His	Ala	Leu	260	265	270
Phe	Tyr	Thr	Leu	Pro	Glu	Gly	Leu	Leu	Pro	Asp	Pro	Ala	Leu	Pro	Cys	275	280	285
Gly	Leu	Leu	Phe	Ser	Thr	Leu	Glu	Thr	Ile	Thr	Gly	Gln	His	Pro	Ala	290	295	300
Lys	Gly	Thr	Gly	Val	Leu	Gln	Glu	Glu	Met	Lys	Leu	Cys	Ser	Trp	Phe	305	310	315
Lys	His	Leu	Pro	Ala	Ser	Ile	Val	Glu	Phe	Gln	Pro	Thr	Leu	Arg	Thr	325	330	335
Leu	Ala	His	Pro	Ile	Ser	Gln	Glu	Tyr	Leu	Lys	Asp	Thr	Leu	Gln	Lys	340	345	350
Trp	Ile	His	Met	Cys	Asn	Glu	Asp	Ile	Lys	Asn	Gly	Ile	Thr	Asn	Leu	355	360	365
Leu	Met	Tyr	Val	Lys	Ser	Met	Lys	Gly	Leu	Ala	Gly	Ile	Arg	Asp	Ala	370	375	380
Met	Trp	Glu	Leu	Leu	Thr	Asn	Glu	Ser	Thr	Asn	His	Ser	Trp	Asp	Val	385	390	395
Leu	Cys	Arg	Arg	Leu	Leu	Glu	Lys	Pro	Leu	Leu	Phe	Trp	Glu	Asp	Met	405	410	415
Met	Gln	Gln	Leu	Phe	Leu	Asp	Arg	Leu	Gln	Thr	Leu	Thr	Lys	Glu	Gly	420	425	430
Phe	Asp	Ser	Ile	Ser	Ser	Ser	Ser	Lys	Glu	Leu	Leu	Val	Ser	Ala	Leu	435	440	445
Gln	Glu	Leu	Glu	Ser	Ser	Thr	Ser	Asn	Ser	Pro	Ser	Asn	Lys	His	Ile	450	455	460
His	Phe	Glu	Tyr	Asn	Met	Ser	Leu	Phe	Leu	Trp	Ser	Glu	Ser	Pro	Asn	465	470	475



Asp Leu Pro Ser Asp Ala Ala Trp Val Ser Val Ala Asn Arg Gly Gln  
 485 490 495  
 Leu Gly Val Ala Gly Leu Ser Met Lys Ala Gln Ala Ile Ser Pro Cys  
 500 505 510  
 Val Gln Asn Phe Cys Ser Ala Leu Asp Ser Lys Leu Lys Val Lys Leu  
 515 520 525  
 Asp Asp Leu Leu Ala Tyr Leu Pro Ser Asp Asp Ser Ser Leu Pro Lys  
 530 535 540  
 Asp Val Ser Pro Thr Gln Ala Lys Ser Ser Ala Phe Asp Arg Tyr Ala  
 545 550 555 560  
 Asp Ala Gly Thr Val Gln Glu Met Leu Arg Thr Gln Ser Val Ala Cys  
 565 570 575  
 Ile Lys His Ile Val Asp Cys Ile Arg Ala Glu Leu Gln Ser Ile Glu  
 580 585 590  
 Glu Gly Val Gln Gly Gln Gln Asp Ala Leu Asn Ser Ala Lys Leu His  
 595 600 605  
 Ser Val Leu Phe Met Ala Arg Leu Cys Gln Ser Leu Gly Glu Leu Cys  
 610 615 620  
 Pro His Leu Lys Gln Cys Ile Leu Gly Lys Ser Glu Ser Ser Glu Lys  
 625 630 635 640  
 Pro Ala Arg Glu Phe Arg Ala Leu Arg Lys Gln Gly Lys Val Lys Thr  
 645 650 655  
 Gln Glu Ile Ile Pro Thr Gln Ala Lys Trp Gln Glu Val Lys Glu Val  
 660 665 670  
 Leu Leu Gln Gln Ser Val Met Gly Tyr Gln Val Trp Ser Ser Ala Val  
 675 680 685  
 Val Lys Val Leu Ile His Gly Phe Thr Gln Ser Leu Leu Leu Asp Asp  
 690 695 700  
 Ala Gly Ser Val Leu Ala Thr Ala Thr Ser Trp Asp Glu Leu Glu Ile  
 705 710 715 720  
 Gln Glu Glu Ala Glu Ser Gly Ser Ser Val Thr Ser Lys Ile Arg Leu  
 725 730 735  
 Pro Ala Gln Pro Ser Trp Tyr Val Gln Ser Phe Leu Phe Ser Leu Cys  
 740 745 750  
 Gln Glu Ile Asn Arg Val Gly Gly His Ala Leu Pro Lys Val Thr Leu  
 755 760 765  
 Gln Glu Met Leu Lys Ser Cys Met Val Gln Val Val Ala Ala Tyr Glu  
 770 775 780

Lys Leu Ser Glu Glu Lys Gln Ile Lys Lys Glu Gly Ala Phe Pro Val  
 785 790 795 800  
 Thr Gln Asn Arg Ala Leu Gln Leu Leu Tyr Asp Leu Arg Tyr Leu Asn  
 805 810 815  
 Ile Val Leu Thr Ala Lys Gly Asp Glu Val Lys Ser Ser Arg Ser Lys  
 820 825 830  
 Pro Asp Ser Arg Ile Glu Lys Val Thr Asp His Leu Glu Ala Leu Ile  
 835 840 845  
 Asp Pro Phe Asp Leu Asp Val Phe Thr Pro His Leu Asn Ser Asn Leu  
 850 855 860  
 His Arg Leu Val Gln Arg Thr Ser Val Leu Phe Gly Leu Val Thr Gly  
 865 870 875 880  
 Thr Glu Asn Gln Leu Ala Pro Arg Ser Ser Thr Phe Asn Ser Gln Glu  
 885 890 895  
 Pro His Asn Ile Leu Pro Leu Ala Ser Ser Gln Ile Arg Phe Gly Leu  
 900 905 910  
 Leu Pro Leu Ser Met Thr Ser Thr Arg Lys Ala Lys Ser Thr Arg Asn  
 915 920 925  
 Ile Glu Thr Lys Ala Gln Val Val Pro Pro Ala Arg Ser Thr Ala Gly  
 930 935 940  
 Asp Pro Thr Val Pro Gly Ser Leu Phe Arg Gln Leu Val Ser Glu Glu  
 945 950 955 960  
 Asp Asn Thr Ser Ala Pro Ser Leu Phe Lys Leu Gly Trp Leu Ser Ser  
 965 970 975  
 Met Thr Lys

<210> 37  
 <211> 1787  
 <212> DNA  
 <213> Homo sapiens

<400> 37  
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 ggatgtgggc accgcttctg ccagcactgc atcctgtccc tgagagaatt aaacacagtg 240  
 ccaatctgcc ctgtagataa agaggtcatc aaatctcagg aggtttttta agacaattgt 300  
 tgcaaaagag aagtcctcaa cttatatgta tattgcagca atgctcctgg atgtaatgcc 360  
 aaggttattc tgggcccgtg ccagcaggtc cactggcct gttgttatct gttgcaggat 420  
 caccttcagc agtgcttatt tcaacctgtg cagtgttcta atgagaagtg ccgggagcca 480  
 gtcctacgga aagacctgaa agagcatttg agtgcaccc gtcagtttcg aaaggaaaaa 540  
 tgcctttatt gcaaaaagga tgtggtagtc atcaatctac agaatcatga ggaaaacttg 600

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ggctgtgctg taacggataa acggaggaac ctgcagcaac atgagcattc agccttacgg 780
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aacatccagg tttttgccag tcacattgac aagtcagctt ggctagaagc tcaagtgcac 1020
caattattac aaatggttaa ccagcaacaa aataaatttg acctgagacc tttgatggaa 1080
gcagttgata cagtgaacaa gaaaattacc ctgctagaaa acaatgatca aagattagcc 1140
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<210> 38  
 <211> 568  
 <212> PRT  
 <213> Homo sapiens

<400> 38

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Gln Asn Ser Gly Asn Ser Ile Ser Leu Asp Phe Glu Pro Ser Ile Glu  
                   20                  25                  30

Tyr Gln Phe Val Glu Arg Leu Glu Glu Arg Tyr Lys Cys Ala Phe Cys  
           35                  40                  45

His Ser Val Leu His Asn Pro His Gln Thr Gly Cys Gly His Arg Phe  
           50                  55                  60

Cys Gln His Cys Ile Leu Ser Leu Arg Glu Leu Asn Thr Val Pro Ile  
           65                  70                  75                  80

Cys Pro Val Asp Lys Glu Val Ile Lys Ser Gln Glu Val Phe Lys Asp  
                   85                  90                  95

Asn Cys Cys Lys Arg Glu Val Leu Asn Leu Tyr Val Tyr Cys Ser Asn  
           100                  105                  110

Ala Pro Gly Cys Asn Ala Lys Val Ile Leu Gly Arg Tyr Gln Gln Val  
           115                  120                  125

Pro Leu Ala Cys Cys Tyr Leu Leu Gln Asp His Leu Gln Gln Cys Leu  
           130                  135                  140

Phe Gln Pro Val Gln Cys Ser Asn Glu Lys Cys Arg Glu Pro Val Leu  
           145                  150                  155                  160

Arg Lys Asp Leu Lys Glu His Leu Ser Ala Ser Cys Gln Phe Arg Lys  
 165 170 175  
 Glu Lys Cys Leu Tyr Cys Lys Lys Asp Val Val Val Ile Asn Leu Gln  
 180 185 190  
 Asn His Glu Glu Asn Leu Cys Pro Glu Tyr Pro Val Phe Cys Pro Asn  
 195 200 205  
 Asn Cys Ala Lys Ile Ile Leu Lys Thr Glu Val Asp Glu His Leu Ala  
 210 215 220  
 Val Cys Pro Glu Ala Glu Gln Asp Cys Pro Phe Lys His Tyr Gly Cys  
 225 230 235 240  
 Ala Val Thr Asp Lys Arg Arg Asn Leu Gln Gln His Glu His Ser Ala  
 245 250 255  
 Leu Arg Glu His Met Arg Leu Val Leu Glu Lys Asn Val Gln Leu Glu  
 260 265 270  
 Glu Gln Ile Ser Asp Leu His Lys Ser Leu Glu Gln Lys Glu Ser Lys  
 275 280 285  
 Ile Gln Gln Leu Ala Glu Thr Ile Lys Lys Leu Glu Lys Glu Phe Lys  
 290 295 300  
 Gln Phe Ala Gln Leu Phe Gly Lys Asn Gly Ser Phe Leu Pro Asn Ile  
 305 310 315 320  
 Gln Val Phe Ala Ser His Ile Asp Lys Ser Ala Trp Leu Glu Ala Gln  
 325 330 335  
 Val His Gln Leu Leu Gln Met Val Asn Gln Gln Gln Asn Lys Phe Asp  
 340 345 350  
 Leu Arg Pro Leu Met Glu Ala Val Asp Thr Val Lys Gln Lys Ile Thr  
 355 360 365  
 Leu Leu Glu Asn Asn Asp Gln Arg Leu Ala Val Leu Glu Glu Glu Thr  
 370 375 380  
 Asn Lys His Asp Thr His Ile Asn Ile His Lys Ala Gln Leu Ser Lys  
 385 390 395 400  
 Asn Glu Glu Arg Phe Lys Leu Leu Glu Gly Thr Cys Tyr Asn Gly Lys  
 405 410 415  
 Leu Ile Trp Lys Val Thr Asp Tyr Lys Met Lys Lys Arg Glu Ala Val  
 420 425 430  
 Asp Gly His Thr Val Ser Ile Phe Ser Gln Ser Phe Tyr Thr Ser Arg  
 435 440 445  
 Cys Gly Tyr Arg Leu Cys Ala Arg Ala Tyr Leu Asn Gly Asp Gly Ser  
 450 455 460

Gly Arg Gly Ser His Leu Ser Leu Tyr Phe Val Val Met Arg Gly Glu  
 465 470 475 480  
 Phe Asp Ser Leu Leu Gln Trp Pro Phe Arg Gln Arg Val Thr Leu Met  
 485 490 495  
 Leu Leu Asp Gln Ser Gly Lys Lys Asn Ile Met Glu Thr Phe Lys Pro  
 500 505 510  
 Asp Pro Asn Ser Ser Ser Phe Lys Arg Pro Asp Gly Glu Met Asn Ile  
 515 520 525  
 Ala Ser Gly Cys Pro Arg Phe Val Ala His Ser Val Leu Glu Asn Ala  
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 545 550 555 560  
 Asp Leu Thr Asp Leu Glu Asp Leu  
 565

<210> 39  
 <211> 622  
 <212> DNA  
 <213> Homo sapiens

<400> 39  
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 cctctgtcag acctgggaaa gcgtccaccc gagctgctcc cttcaacctc aagatacatt 480  
 ttttttcttt ctttcttttt gaaagagtct ccctgcgtgt agacccttgg actattgatt 540  
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<210> 40  
 <211> 201  
 <212> PRT  
 <213> Homo sapiens

<220>  
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 <222> (196)..(196)  
 <223> Wherein Xaa is any amino acid as defined by the  
 specification.

<400> 40  
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 20 25 30  
 Ser Leu Ile Leu His Phe Tyr Arg Asp Asp Val Thr Leu Glu Gly Met  
 35 40 45  
 Gly His Phe Arg Glu Leu Ala Gln Glu Lys Arg Gln Gly Ala Gln Ser  
 50 55 60  
 Leu Trp Lys Thr Gln Asn Gln Arg Gly Ala Leu Cys Asp Ala Ile Gln  
 65 70 75 80  
 Lys Pro Ser Trp Asp Glu Lys Asp Ser Ser Leu Gly Ala Leu Arg Ala  
 85 90 95  
 Ala Leu Ala Leu Glu Thr Asn Leu Asn Gln Ala Leu Leu Asp Leu His  
 100 105 110  
 Ala Leu Gly Ala Lys His Ala Asp Ser His Pro Cys Gly Phe Leu Glu  
 115 120 125  
 Asn His Phe Arg Pro His Pro Ser Val Arg Pro Gly Lys Ala Ser Thr  
 130 135 140  
 Arg Ala Ala Pro Phe Asn Leu Lys Ile His Phe Phe Ser Phe Phe Leu  
 145 150 155 160  
 Phe Glu Arg Val Ser Leu Arg Val Asp Pro Trp Thr Ile Asp Cys Thr  
 165 170 175  
 Thr Phe Ile Pro Ser Pro Ala His Tyr Ser Asn Lys Val Pro Asn Ile  
 180 185 190  
 Pro Asn Ile Xaa Arg Ile Arg Met Asn  
 195 200

<210> 41

<211> 781

<212> DNA

<213> Homo sapiens

<400> 41

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 tgccaacact tctttgtcac ctgcttcgag gccataact ctgaagaagg tggcccaggg 660  
 gtaggtggag gggctgccgc aggggtgtgg accggggggc actgggtgtc tgagtgaag 720  
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<210> 42  
 <211> 237  
 <212> PRT  
 <213> Homo sapiens

<400> 42  
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 Pro Thr Ser Asp Pro Thr Glu Val Phe Ile Leu Phe Ser Asn Pro Ser  
           20                  25                  30  
 Leu Leu Phe Pro Val Ser Met Cys Ser Glu Arg Cys Ser Glu Arg Cys  
       35                  40                  45  
 Ser Arg Ser Pro Arg Leu Pro Leu His Pro Pro His Phe Leu Pro Leu  
       50                  55                  60  
 Gln Cys Val Asn Gly Val Leu Thr Pro Pro Ser Thr Leu Ser Pro Phe  
   65                  70                  75                  80  
 Pro Asp Pro Lys Trp Asp Leu Leu Phe Pro Arg Val Val Leu Pro Arg  
           85                  90                  95  
 Gly Ala Ala Ala Gly Pro Pro Leu Val Phe Leu Leu Glu Thr Gly Ala  
           100                  105                  110  
 Phe Arg Glu Ser Ala Gly Ala Arg Ala Asn Arg Ser Gln Arg Gly Val  
       115                  120                  125  
 Ser Asn Thr Ser Leu Ala Ser His Gln Gly Glu Leu Ala Val Cys Asp  
       130                  135                  140  
 Ala Val Thr Gly Trp Val Thr Asp Pro Arg Thr Ala Val Asp Ser Gly  
   145                  150                  155                  160  
 Val Leu Glu Val Glu Val Leu Gly Glu Val Pro Ala Ala Gly Gly Ser  
           165                  170                  175  
 Ser Leu Cys Gln His Phe Phe Val Thr Cys Phe Glu Ala Asn Asn Ser  
           180                  185                  190  
 Glu Glu Gly Gly Pro Gly Val Gly Gly Gly Ala Ala Ala Gly Val Trp  
       195                  200                  205  
 Thr Gly Gly His Trp Val Ser Glu Cys Lys Ala Lys Gln Ser Tyr Val  
       210                  215                  220  
 Arg Ala Leu Thr Ala Asp Ala Gln Gly Cys Val Asp Trp  
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<210> 43  
 <211> 1018  
 <212> DNA

<213> Homo sapiens

<400> 43

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tcggagacaa agagatattt cacacagtat agttttgccg gctgcagttt cttcagctca 180
tccggttcct aagcacataa agaagccaga ctatgtgacg acaggcattg taccagactg 240
gggagacagc atagaagtta agaatgaaga tcagattcaa gggcttcac aggcttgctca 300
gctggcccg cagtcctcc tcttggtgg gaagagttta aagggtgaca tgacaactga 360
agagatagat gctcttggtc atcgggaaat catcagtcat aatgcctatc cctcacctct 420
aggctatgga ggttttccaa aatctggttg tacctctgta aacaacgtgc tctgtcatgg 480
tattcctgac agtcgacctc ttcaggatgg agatattatc aacattgatg tcacagtcta 540
ttacaatggc taccatggag acacctctga aacatttttg gtgggcaatg tggacgaatg 600
tggtaaaaag ttagtggagg ttgccaggag gtgtagagat gaagcaattg cagcttgacg 660
agcaggggct cccttctctg taattggaaa cacaatcagc cacataactc atcagaatgg 720
ttttcaagtc tgtccacatt ttgtgggaca tggaaatagga tcttactttc atggacatcc 780
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tgtggtctcc ctagacaatc aaaggctcgg gcagttcgag cacacggttc tgatcacgtc 960
gaggggcgcg cagatcctga ccaaactacc ccatgaggcc tgaggagccg cccgaagg 1018
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<210> 44

<211> 315

<212> PRT

<213> Homo sapiens

<400> 44

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Ser Pro Leu Asn His Ile Tyr Leu His Lys Gln Ser Ser Ser Gln Gln
  1              5              10              15

Arg Arg Asn Phe Phe Phe Arg Arg Gln Arg Asp Ile Ser His Ser Ile
      20              25              30

Val Leu Pro Ala Ala Val Ser Ser Ala His Pro Val Pro Lys His Ile
      35              40              45

Lys Lys Pro Asp Tyr Val Thr Thr Gly Ile Val Pro Asp Trp Gly Asp
      50              55              60

Ser Ile Glu Val Lys Asn Glu Asp Gln Ile Gln Gly Leu His Gln Ala
      65              70              75              80

Cys Gln Leu Ala Arg His Val Leu Leu Leu Ala Gly Lys Ser Leu Lys
      85              90              95

Val Asp Met Thr Thr Glu Glu Ile Asp Ala Leu Val His Arg Glu Ile
      100             105             110

Ile Ser His Asn Ala Tyr Pro Ser Pro Leu Gly Tyr Gly Gly Phe Pro
      115             120             125

Lys Ser Val Cys Thr Ser Val Asn Asn Val Leu Cys His Gly Ile Pro
      130             135             140

Asp Ser Arg Pro Leu Gln Asp Gly Asp Ile Ile Asn Ile Asp Val Thr
      145             150             155             160
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Val Tyr Tyr Asn Gly Tyr His Gly Asp Thr Ser Glu Thr Phe Leu Val  
 165 170 175  
 Gly Asn Val Asp Glu Cys Gly Lys Lys Leu Val Glu Val Ala Arg Arg  
 180 185 190  
 Cys Arg Asp Glu Ala Ile Ala Ala Cys Arg Ala Gly Ala Pro Phe Ser  
 195 200 205  
 Val Ile Gly Asn Thr Ile Ser His Ile Thr His Gln Asn Gly Phe Gln  
 210 215 220  
 Val Cys Pro His Phe Val Gly His Gly Ile Gly Ser Tyr Phe His Gly  
 225 230 235 240  
 His Pro Glu Ile Trp His His Ala Asn Asp Ser Asp Leu Pro Met Glu  
 245 250 255  
 Glu Gly Met Ala Phe Thr Ile Glu Pro Ile Ile Thr Glu Gly Ser Pro  
 260 265 270  
 Glu Phe Lys Val Leu Glu Asp Ala Trp Thr Val Val Ser Leu Asp Asn  
 275 280 285  
 Gln Arg Ser Ala Gln Phe Glu His Thr Val Leu Ile Thr Ser Arg Gly  
 290 295 300  
 Ala Gln Ile Leu Thr Lys Leu Pro His Glu Ala  
 305 310 315

<210> 45

<211> 1018

<212> DNA

<213> Homo sapiens

<400> 45

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 tcggagacaa agagatattt cacacagtat agttttgccg gctgcagttt cttcagctca 180  
 tccggttcct aagcacataa agaagccaga ctatgtgacg acaggcattg taccagactg 240  
 gggagacagc atagaagtta agaatgaaga tcagattcaa gggcttcac aggcttgtca 300  
 gctggcccg cacttcctcc tcttggttg gaagagttta aaggttgaca tgacaactga 360  
 agagatagat gctcttggtc atcgggaaat catcagtc atgcctatc cctcacctct 420  
 aggctatgga ggttttccaa aatctggttg tacctctgta aacaacgtgc tctgtcatgg 480  
 tattcctgac agtcgacctc ttcaggatgg agatattatc aacattgatg tcacagtcta 540  
 ttacaatggc taccatggag acacctctga aacatttttg gtgggcaatg tggacgaatg 600  
 tggtaaaaag ttagtggagg ttgccaggag gtgtagagat gaagcaattg cagcttgcag 660  
 agcaggggct cccttctctg taattggaaa cacaatcagc cacataactc atcagaatgg 720  
 ttttcaagtc tgtccacatt ttgtgggaca tggaatagga tcttactttc atggacatcc 780  
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<210> 46  
 <211> 310  
 <212> PRT  
 <213> Homo sapiens

<400> 46  
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 Phe Arg Arg Gln Arg Asp Ile Ser His Ser Ile Val Leu Pro Ala Ala  
                   20                  25                  30  
 Val Ser Ser Ala His Pro Val Pro Lys His Ile Lys Lys Pro Asp Tyr  
           35                  40                  45  
 Val Thr Thr Gly Ile Val Pro Asp Trp Gly Asp Ser Ile Glu Val Lys  
   50                  55                  60  
 Asn Glu Asp Gln Ile Gln Gly Leu His Gln Ala Cys Gln Leu Ala Arg  
  65                  70                  75                  80  
 His Val Leu Leu Leu Ala Gly Lys Ser Leu Lys Val Asp Met Thr Thr  
                   85                  90                  95  
 Glu Glu Ile Asp Ala Leu Val His Arg Glu Ile Ile Ser His Asn Ala  
                   100                  105                  110  
 Tyr Pro Ser Pro Leu Gly Tyr Gly Gly Phe Pro Lys Ser Val Cys Thr  
           115                  120                  125  
 Ser Val Asn Asn Val Leu Cys His Gly Ile Pro Asp Ser Arg Pro Leu  
  130                  135                  140  
 Gln Asp Gly Asp Ile Ile Asn Ile Asp Val Thr Val Tyr Tyr Asn Gly  
 145                  150                  155                  160  
 Tyr His Gly Asp Thr Ser Glu Thr Phe Leu Val Gly Asn Val Asp Glu  
                   165                  170                  175  
 Cys Gly Lys Lys Leu Val Glu Val Ala Arg Arg Cys Arg Asp Glu Ala  
                   180                  185                  190  
 Ile Ala Ala Cys Arg Ala Gly Ala Pro Phe Ser Val Ile Gly Asn Thr  
           195                  200                  205  
 Ile Ser His Ile Thr His Gln Asn Gly Phe Gln Val Cys Pro His Phe  
  210                  215                  220  
 Val Gly His Gly Ile Gly Ser Tyr Phe His Gly His Pro Glu Ile Trp  
 225                  230                  235                  240  
 His His Ala Asn Asp Ser Asp Leu Pro Met Glu Glu Gly Met Ala Phe  
                   245                  250                  255  
 Thr Ile Glu Pro Ile Ile Thr Glu Gly Ser Pro Glu Phe Lys Val Leu  
           260                  265                  270

Glu Asp Ala Trp Thr Val Val Ser Leu Asp Asn Gln Arg Ser Ala Gln  
 275 280 285

Phe Glu His Thr Val Leu Ile Thr Ser Arg Gly Ala Gln Ile Leu Thr  
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Lys Leu Pro His Glu Ala  
 305 310

<210> 47  
 <211> 1042  
 <212> DNA  
 <213> Homo sapiens

<400> 47  
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 gtcaacaaag aagaaatttc ttttttcgga gacaaagaga tatttcacac agtatagttt 180  
 cgccggctgc agttttcttca gctcatccgg ttccctaagca cataaagaag ccagactatg 240  
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 gtcataatgc ctatccctca cctctaggct atggagggtt tccaaaatct gtttgtacct 480  
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 ttttggtggg caatgtggac gaatgtggta aaaagttagt ggagggttgc aggagggtga 660  
 gagatgaagc aattgcagct tgcagagcag gggctccctt ctctgtaatt ggaaacacaa 720  
 tcagccacat aactcatcag aatgggtttc aagtctgtcc acattttgtg ggacatggaa 780  
 taggatctta ctttcatgga catccagaaa tttggcatca tgcaaacgac agtgatctac 840  
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 ttaaagtcct ggaggatgca tggactgtgg tctccctaga caatcaaagg tcggcgagat 960  
 tcgagcacac ggttctgatc acgtcgaggg gcgcgcagat cctgaccaa ctaccccatg 1020  
 aggcctgagg agccgcccga ag 1042

<210> 48  
 <211> 335  
 <212> PRT  
 <213> Homo sapiens

<400> 48  
 Met Ala Ala Pro Ser Gly Val His Leu Leu Val Arg Arg Gly Ser His  
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 20 25 30  
 Ser Ser Gln Gln Arg Arg Asn Phe Phe Phe Arg Arg Gln Arg Asp Ile  
 35 40 45  
 Ser His Ser Ile Val Ser Pro Ala Ala Val Ser Ser Ala His Pro Val  
 50 55 60  
 Pro Lys His Ile Lys Lys Pro Asp Tyr Val Thr Thr Gly Ile Val Pro  
 65 70 75 80



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<210> 50  
 <211> 526  
 <212> PRT  
 <213> Homo sapiens

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<400> 50
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      20             25             30

Tyr Gln Phe Val Glu Arg Leu Glu Glu Arg Tyr Lys Cys Ala Phe Cys
 35             40             45

His Ser Val Leu His Asn Pro His Gln Thr Gly Cys Gly His Arg Phe
 50             55             60

Cys Gln His Cys Ile Leu Ser Leu Arg Glu Leu Asn Thr Val Pro Ile
 65             70             75             80

Cys Pro Val Asp Lys Glu Val Ile Lys Ser Gln Glu Val Phe Lys Asp
      85             90             95

Asn Cys Cys Lys Arg Glu Val Leu Asn Leu Tyr Val Tyr Cys Ser Asn
 100            105            110

Ala Pro Gly Cys Asn Ala Lys Val Ile Leu Gly Arg Tyr Gln Asp His
 115            120            125

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Leu	Gln	Gln	Cys	Leu	Phe	Gln	Pro	Val	Gln	Cys	Ser	Asn	Glu	Lys	Cys	
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Arg	Glu	Pro	Val	Leu	Arg	Lys	Asp	Leu	Lys	Glu	His	Leu	Ser	Ala	Ser	
145					150					155					160	
Cys	Gln	Phe	Arg	Lys	Glu	Lys	Cys	Leu	Tyr	Cys	Lys	Lys	Asp	Val	Val	
				165					170					175		
Val	Ile	Asn	Leu	Gln	Asn	His	Glu	Glu	Asn	Leu	Cys	Pro	Glu	Tyr	Pro	
				180				185					190			
Val	Phe	Cys	Pro	Asn	Asn	Cys	Ala	Lys	Ile	Ile	Leu	Lys	Thr	Glu	Val	
		195					200					205				
Asp	Glu	His	Leu	Ala	Val	Cys	Pro	Glu	Ala	Glu	Gln	Asp	Cys	Pro	Phe	
210						215					220					
Lys	His	Tyr	Gly	Cys	Ala	Val	Thr	Ile	Ser	Asp	Leu	His	Lys	Ser	Leu	
225					230					235					240	
Glu	Gln	Lys	Glu	Ser	Lys	Ile	Gln	Gln	Leu	Ala	Glu	Thr	Ile	Lys	Lys	
				245					250					255		
Leu	Glu	Lys	Glu	Phe	Lys	Gln	Phe	Ala	Gln	Leu	Phe	Gly	Lys	Asn	Gly	
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Ser	Phe	Leu	Pro	Asn	Ile	Gln	Val	Phe	Ala	Ser	His	Ile	Asp	Lys	Ser	
		275					280					285				
Ala	Trp	Leu	Glu	Ala	Gln	Val	His	Gln	Leu	Leu	Gln	Met	Val	Asn	Gln	
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Gln	Gln	Asn	Lys	Phe	Asp	Leu	Arg	Pro	Leu	Met	Glu	Ala	Val	Asp	Thr	
305					310					315					320	
Val	Lys	Gln	Lys	Ile	Thr	Leu	Leu	Glu	Asn	Asn	Asp	Gln	Arg	Leu	Ala	
				325					330					335		
Val	Leu	Glu	Glu	Glu	Thr	Asn	Lys	His	Asp	Thr	His	Ile	Asn	Ile	His	
			340					345					350			
Lys	Ala	Gln	Leu	Ser	Lys	Asn	Glu	Glu	Arg	Phe	Lys	Leu	Leu	Glu	Gly	
		355					360					365				
Thr	Cys	Tyr	Asn	Gly	Lys	Leu	Ile	Trp	Lys	Val	Thr	Asp	Tyr	Lys	Met	
		370				375					380					
Lys	Lys	Arg	Glu	Ala	Val	Asp	Gly	His	Thr	Val	Ser	Ile	Phe	Ser	Gln	
385					390					395					400	
Ser	Phe	Tyr	Thr	Ser	Arg	Cys	Gly	Tyr	Arg	Leu	Cys	Ala	Arg	Ala	Tyr	
				405					410					415		
Leu	Asn	Gly	Asp	Gly	Ser	Gly	Arg	Gly	Ser	His	Leu	Ser	Leu	Tyr	Phe	
			420					425					430			

Val Val Met Arg Gly Glu Phe Asp Ser Leu Leu Gln Trp Pro Phe Arg  
435 440 445

Gln Arg Val Thr Leu Met Leu Leu Asp Gln Ser Gly Lys Lys Asn Ile  
450 455 460

Met Glu Thr Phe Lys Pro Asp Pro Asn Ser Ser Ser Phe Lys Arg Pro  
465 470 475 480

Asp Gly Glu Met Asn Ile Ala Ser Gly Cys Pro Arg Phe Val Ala His  
485 490 495

Ser Val Leu Glu Asn Ala Lys Asn Ala Tyr Ile Lys Asp Asp Thr Leu  
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Phe Leu Lys Val Ala Val Asp Leu Thr Asp Leu Glu Asp Leu  
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<210> 51  
<211> 730  
<212> PRT  
<213> Homo sapiens

<400> 51  
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20 25 30

Thr Glu Glu Gly Met Val Asn Ala Arg Phe Asp Tyr Asn Tyr Asp Asn  
35 40 45

Ser Phe Arg Val Thr Ser Met Gln Ala Val Ile Asn Glu Thr Pro Leu  
50 55 60

Pro Ile Asp Leu Tyr Arg Tyr Asp Asp Val Ser Gly Lys Thr Glu Gln  
65 70 75 80

Phe Gly Lys Phe Gly Val Ile Tyr Tyr Asp Ile Asn Gln Ile Ile Thr  
85 90 95

Thr Ala Val Met Thr His Thr Lys His Phe Asp Ala Tyr Gly Arg Met  
100 105 110

Lys Glu Val Gln Tyr Glu Ile Phe Arg Ser Leu Met Tyr Trp Met Thr  
115 120 125

Val Gln Tyr Asp Asn Met Gly Arg Val Val Lys Lys Glu Leu Lys Val  
130 135 140

Gly Pro Tyr Ala Asn Thr Thr Arg Tyr Ser Tyr Glu Tyr Asp Ala Asp  
145 150 155 160

Gly Gln Leu Gln Thr Val Ser Ile Asn Asp Lys Pro Leu Trp Arg Tyr

165										170					175				
Ser	Tyr	Asp	Leu	Asn	Gly	Asn	Leu	His	Leu	Leu	Ser	Pro	Gly	Asn	Ser				
			180					185					190						
Ala	Arg	Leu	Thr	Pro	Leu	Arg	Tyr	Asp	Ile	Arg	Asp	Arg	Ile	Thr	Arg				
		195					200				205								
Leu	Gly	Asp	Val	Gln	Tyr	Lys	Met	Asp	Glu	Asp	Gly	Phe	Leu	Arg	Gln				
	210					215					220								
Arg	Gly	Gly	Asp	Ile	Phe	Glu	Tyr	Asn	Ser	Ala	Gly	Leu	Leu	Ile	Lys				
225					230					235					240				
Ala	Tyr	Asn	Arg	Ala	Gly	Ser	Trp	Ser	Val	Arg	Tyr	Arg	Tyr	Asp	Gly				
				245					250					255					
Leu	Gly	Arg	Arg	Val	Ser	Ser	Lys	Ser	Ser	His	Ser	His	His	Leu	Gln				
			260					265					270						
Phe	Phe	Tyr	Ala	Asp	Leu	Thr	Asn	Pro	Thr	Lys	Val	Thr	His	Leu	Tyr				
		275					280					285							
Asn	His	Ser	Ser	Ser	Glu	Ile	Thr	Ser	Leu	Tyr	Tyr	Asp	Leu	Gln	Gly				
	290					295					300								
His	Leu	Phe	Ala	Met	Glu	Leu	Ser	Ser	Gly	Asp	Glu	Phe	Tyr	Ile	Ala				
305					310					315					320				
Cys	Asp	Asn	Ile	Gly	Thr	Pro	Leu	Ala	Val	Phe	Ser	Gly	Thr	Gly	Leu				
				325					330					335					
Met	Ile	Lys	Gln	Ile	Leu	Tyr	Thr	Ala	Tyr	Gly	Glu	Ile	Tyr	Met	Asp				
			340					345					350						
Thr	Asn	Pro	Asn	Phe	Gln	Ile	Ile	Ile	Gly	Tyr	His	Gly	Gly	Leu	Tyr				
		355				360						365							
Asp	Pro	Leu	Thr	Lys	Leu	Val	His	Met	Gly	Arg	Arg	Asp	Tyr	Asp	Val				
		370				375					380								
Leu	Ala	Gly	Arg	Trp	Thr	Ser	Pro	Asp	His	Glu	Leu	Trp	Lys	His	Leu				
385					390					395					400				
Ser	Ser	Ser	Asn	Val	Met	Pro	Phe	Asn	Leu	Tyr	Met	Phe	Lys	Asn	Asn				
				405					410					415					
Asn	Pro	Ile	Ser	Asn	Ser	Gln	Asp	Ile	Lys	Cys	Phe	Met	Thr	Asp	Val				
			420					425					430						
Asn	Ser	Trp	Leu	Leu	Thr	Phe	Gly	Phe	Gln	Leu	His	Asn	Val	Ile	Pro				
		435					440				445								
Gly	Tyr	Pro	Lys	Pro	Asp	Met	Asp	Ala	Met	Glu	Pro	Ser	Tyr	Glu	Leu				
	450					455					460								
Ile	His	Thr	Gln	Met	Lys	Thr	Gln	Glu	Trp	Asp	Asn	Ser	Lys	Ser	Ile				



465	470	475	480
Leu Gly Val Gln Cys Glu Val Gln Lys Gln Leu Lys Ala Phe Val Thr	485	490	495
Leu Glu Arg Phe Asp Gln Leu Tyr Gly Ser Thr Ile Thr Ser Cys Leu	500	505	510
Gln Ala Pro Lys Thr Lys Lys Phe Ala Ser Ser Gly Ser Val Phe Gly	515	520	525
Lys Gly Val Lys Phe Ala Leu Lys Asp Gly Arg Val Thr Thr Asp Ile	530	535	540
Ile Ser Val Ala Asn Glu Asp Gly Arg Arg Val Ala Ala Ile Leu Asn	545	550	555
His Ala His Tyr Leu Glu Asn Leu His Phe Thr Ile Asp Gly Val Asp	565	570	575
Thr His Tyr Phe Val Lys Pro Gly Pro Ser Glu Gly Asp Leu Ala Ile	580	585	590
Leu Gly Leu Ser Gly Gly Arg Arg Thr Leu Glu Asn Gly Val Asn Val	595	600	605
Thr Val Ser Gln Ile Asn Thr Val Leu Ser Gly Arg Thr Arg Arg Tyr	610	615	620
Thr Asp Ile Gln Leu Gln Tyr Gly Ala Leu Cys Leu Asn Thr Arg Tyr	625	630	635
Gly Thr Thr Leu Asp Glu Glu Lys Ala Arg Val Leu Glu Leu Ala Arg	645	650	655
Gln Arg Ala Val Arg Gln Ala Trp Ala Arg Glu Gln Gln Arg Leu Arg	660	665	670
Glu Gly Glu Glu Gly Leu Arg Ala Trp Thr Glu Gly Glu Lys Gln Gln	675	680	685
Val Leu Ser Thr Gly Arg Val Gln Gly Tyr Asp Gly Phe Phe Val Ile	690	695	700
Ser Val Glu Gln Tyr Pro Glu Leu Ser Asp Ser Ala Asn Asn Ile His	705	710	715
Phe Met Arg Gln Ser Glu Met Gly Arg Arg	725	730	

<210> 52  
 <211> 2715  
 <212> PRT  
 <213> Mus musculus

<400> 52

Met	Asp	Val	Lys	Glu	Arg	Arg	Pro	Tyr	Cys	Ser	Leu	Thr	Lys	Ser	Arg	1	5	10	15
Arg	Glu	Lys	Glu	Arg	Arg	Tyr	Thr	Asn	Ser	Ser	Ala	Asp	Asn	Glu	Glu	20	25	30	
Cys	Arg	Val	Pro	Thr	Gln	Lys	Ser	Tyr	Ser	Ser	Ser	Glu	Thr	Leu	Lys	35	40	45	
Ala	Phe	Asp	His	Asp	Tyr	Ser	Arg	Leu	Leu	Tyr	Gly	Asn	Arg	Val	Lys	50	55	60	
Asp	Leu	Val	His	Arg	Glu	Ala	Asp	Glu	Tyr	Thr	Arg	Gln	Gly	Gln	Asn	65	70	75	80
Phe	Thr	Leu	Arg	Gln	Leu	Gly	Val	Cys	Glu	Ser	Ala	Thr	Arg	Arg	Gly	85	90	95	
Val	Ala	Phe	Cys	Ala	Glu	Met	Gly	Leu	Pro	His	Arg	Gly	Tyr	Ser	Ile	100	105	110	
Ser	Ala	Gly	Ser	Asp	Ala	Asp	Thr	Glu	Asn	Glu	Ala	Val	Met	Ser	Pro	115	120	125	
Glu	His	Ala	Met	Arg	Leu	Trp	Gly	Arg	Gly	Val	Lys	Ser	Gly	Arg	Ser	130	135	140	
Ser	Cys	Leu	Ser	Ser	Arg	Ser	Asn	Ser	Ala	Leu	Thr	Leu	Thr	Asp	Thr	145	150	155	160
Glu	His	Glu	Asn	Arg	Ser	Asp	Ser	Glu	Ser	Glu	Gln	Pro	Ser	Asn	Asn	165	170	175	
Pro	Gly	Gln	Pro	Thr	Leu	Gln	Pro	Leu	Pro	Pro	Ser	His	Lys	Gln	His	180	185	190	
Pro	Ala	Gln	His	His	Pro	Ser	Ile	Thr	Ser	Leu	Asn	Arg	Asn	Ser	Leu	195	200	205	
Thr	Asn	Arg	Arg	Asn	Gln	Ser	Pro	Ala	Pro	Pro	Ala	Ala	Leu	Pro	Ala	210	215	220	
Glu	Leu	Gln	Thr	Thr	Pro	Glu	Ser	Val	Gln	Leu	Gln	Asp	Ser	Trp	Val	225	230	235	240
Leu	Gly	Ser	Asn	Val	Pro	Leu	Glu	Ser	Arg	His	Phe	Leu	Phe	Lys	Thr	245	250	255	
Gly	Thr	Gly	Thr	Thr	Pro	Leu	Phe	Ser	Thr	Ala	Thr	Pro	Gly	Tyr	Thr	260	265	270	
Met	Ala	Ser	Gly	Ser	Val	Tyr	Ser	Pro	Pro	Thr	Arg	Pro	Leu	Pro	Arg	275	280	285	
Asn	Thr	Leu	Ser	Arg	Ser	Ala	Phe	Lys	Phe	Lys	Lys	Ser	Ser	Lys	Tyr	290	295	300	

Cys	Ser	Trp	Arg	Cys	Thr	Ala	Leu	Cys	Ala	Val	Gly	Val	Ser	Val	Leu	305	310	315	320
Leu	Ala	Ile	Leu	Leu	Ser	Tyr	Phe	Ile	Ala	Met	His	Leu	Phe	Gly	Leu	325	330	335	
Asn	Trp	His	Leu	Gln	Gln	Thr	Glu	Asn	Asp	Thr	Phe	Glu	Asn	Gly	Lys	340	345	350	
Val	Asn	Ser	Asp	Thr	Val	Pro	Thr	Asn	Thr	Val	Ser	Leu	Pro	Ser	Gly	355	360	365	
Asp	Asn	Gly	Lys	Leu	Gly	Gly	Phe	Thr	His	Glu	Asn	Asn	Thr	Ile	Asp	370	375	380	
Ser	Gly	Glu	Leu	Asp	Ile	Gly	Arg	Arg	Ala	Ile	Gln	Glu	Val	Pro	Pro	385	390	395	400
Gly	Ile	Phe	Trp	Arg	Ser	Gln	Leu	Phe	Ile	Asp	Gln	Pro	Gln	Phe	Leu	405	410	415	
Lys	Phe	Asn	Ile	Ser	Leu	Gln	Lys	Asp	Ala	Leu	Ile	Gly	Val	Tyr	Gly	420	425	430	
Arg	Lys	Gly	Leu	Pro	Pro	Ser	His	Thr	Gln	Tyr	Asp	Phe	Val	Glu	Leu	435	440	445	
Leu	Asp	Gly	Ser	Arg	Leu	Ile	Ala	Arg	Glu	Gln	Arg	Asn	Leu	Val	Glu	450	455	460	
Ser	Glu	Arg	Ala	Gly	Arg	Gln	Ala	Arg	Ser	Val	Ser	Leu	His	Glu	Ala	465	470	475	480
Gly	Phe	Ile	Gln	Tyr	Leu	Asp	Ser	Gly	Ile	Trp	His	Leu	Ala	Phe	Tyr	485	490	495	
Asn	Asp	Gly	Lys	Asn	Pro	Glu	Gln	Val	Ser	Phe	Asn	Thr	Ile	Val	Ile	500	505	510	
Glu	Ser	Val	Val	Glu	Cys	Pro	Arg	Asn	Cys	His	Gly	Asn	Gly	Glu	Cys	515	520	525	
Val	Ser	Gly	Thr	Cys	His	Cys	Phe	Pro	Gly	Phe	Leu	Gly	Pro	Asp	Cys	530	535	540	
Ser	Arg	Ala	Ala	Cys	Pro	Val	Leu	Cys	Ser	Gly	Asn	Gly	Gln	Tyr	Ser	545	550	555	560
Lys	Gly	Arg	Cys	Leu	Cys	Phe	Ser	Gly	Trp	Lys	Gly	Thr	Glu	Cys	Asp	565	570	575	
Val	Pro	Thr	Thr	Gln	Cys	Ile	Asp	Pro	Gln	Cys	Gly	Gly	Arg	Gly	Ile	580	585	590	
Cys	Ile	Met	Gly	Ser	Cys	Ala	Cys	Asn	Ser	Gly	Tyr	Lys	Gly	Glu	Asn	595	600	605	

Cys	Glu	Glu	Ala	Asp	Cys	Leu	Asp	Pro	Gly	Cys	Ser	Asn	His	Gly	Val	610	615	620
Cys	Ile	His	Gly	Glu	Cys	His	Cys	Asn	Pro	Gly	Trp	Gly	Gly	Ser	Asn	625	630	635
Cys	Glu	Ile	Leu	Lys	Thr	Met	Cys	Ala	Asp	Gln	Cys	Ser	Gly	His	Gly	645	650	655
Thr	Tyr	Leu	Gln	Glu	Ser	Gly	Ser	Cys	Thr	Cys	Asp	Pro	Asn	Trp	Thr	660	665	670
Gly	Pro	Asp	Cys	Ser	Asn	Glu	Ile	Cys	Ser	Val	Asp	Cys	Gly	Ser	His	675	680	685
Gly	Val	Cys	Met	Gly	Gly	Ser	Cys	Arg	Cys	Glu	Glu	Gly	Trp	Thr	Gly	690	695	700
Pro	Ala	Cys	Asn	Gln	Arg	Ala	Cys	His	Pro	Arg	Cys	Ala	Glu	His	Gly	705	710	715
Thr	Cys	Lys	Asp	Gly	Lys	Cys	Glu	Cys	Ser	Gln	Gly	Trp	Asn	Gly	Glu	725	730	735
His	Cys	Thr	Ile	Ala	His	Tyr	Leu	Asp	Lys	Ile	Val	Lys	Glu	Gly	Cys	740	745	750
Pro	Gly	Leu	Cys	Asn	Ser	Asn	Gly	Arg	Cys	Thr	Leu	Asp	Gln	Asn	Gly	755	760	765
Trp	His	Cys	Val	Cys	Gln	Pro	Gly	Trp	Arg	Gly	Ala	Gly	Cys	Asp	Val	770	775	780
Ala	Met	Glu	Thr	Leu	Cys	Thr	Asp	Ser	Lys	Asp	Asn	Glu	Gly	Asp	Gly	785	790	795
Leu	Ile	Asp	Cys	Met	Asp	Pro	Asp	Cys	Cys	Leu	Gln	Ser	Ser	Cys	Gln	805	810	815
Asn	Gln	Pro	Tyr	Cys	Arg	Gly	Leu	Pro	Asp	Pro	Gln	Asp	Ile	Ile	Ser	820	825	830
Gln	Ser	Leu	Gln	Thr	Pro	Ser	Gln	Gln	Ala	Ala	Lys	Ser	Phe	Tyr	Asp	835	840	845
Arg	Ile	Ser	Phe	Leu	Ile	Gly	Ser	Asp	Ser	Thr	His	Val	Leu	Pro	Gly	850	855	860
Glu	Ser	Pro	Phe	Asn	Lys	Ser	Leu	Ala	Ser	Val	Ile	Arg	Gly	Gln	Val	865	870	875
Leu	Thr	Ala	Asp	Gly	Thr	Pro	Leu	Ile	Gly	Val	Asn	Val	Ser	Phe	Leu	885	890	895
His	Tyr	Ser	Glu	Tyr	Gly	Tyr	Thr	Ile	Thr	Arg	Gln	Asp	Gly	Met	Phe	900	905	910

Asp Leu Val Ala Asn Gly Gly Ala Ser Leu Thr Leu Val Phe Glu Arg  
 915 920 925  
 Ser Pro Phe Leu Thr Gln Tyr His Thr Val Trp Ile Pro Trp Asn Val  
 930 935 940  
 Phe Tyr Val Met Asp Thr Leu Val Met Lys Lys Glu Glu Asn Asp Ile  
 945 950 955 960  
 Pro Ser Cys Asp Leu Ser Gly Phe Val Arg Pro Ser Pro Ile Ile Val  
 965 970 975  
 Ser Ser Pro Leu Ser Thr Phe Phe Arg Ser Ser Pro Glu Asp Ser Pro  
 980 985 990  
 Ile Ile Pro Glu Thr Gln Val Leu His Glu Glu Thr Thr Ile Pro Gly  
 995 1000 1005  
 Thr Asp Leu Lys Leu Ser Tyr Leu Ser Ser Arg Ala Ala Gly Tyr Lys  
 1010 1015 1020  
 Ser Val Leu Lys Ile Thr Met Thr Gln Ala Val Ile Pro Phe Asn Leu  
 1025 1030 1035 1040  
 Met Lys Val His Leu Met Val Ala Val Val Gly Arg Leu Phe Gln Lys  
 1045 1050 1055  
 Trp Phe Pro Ala Ser Pro Asn Leu Ala Tyr Thr Phe Ile Trp Asp Lys  
 1060 1065 1070  
 Thr Asp Ala Tyr Asn Gln Lys Val Tyr Gly Leu Ser Glu Ala Val Val  
 1075 1080 1085  
 Ser Val Gly Tyr Glu Tyr Glu Ser Cys Leu Asp Leu Thr Leu Trp Glu  
 1090 1095 1100  
 Lys Arg Thr Ala Val Leu Gln Gly Tyr Glu Leu Asp Ala Ser Asn Met  
 1105 1110 1115 1120  
 Gly Gly Trp Thr Leu Asp Lys His His Val Leu Asp Val Gln Asn Gly  
 1125 1130 1135  
 Ile Leu Tyr Lys Gly Asn Gly Glu Asn Gln Phe Ile Ser Gln Gln Pro  
 1140 1145 1150  
 Pro Val Val Ser Ser Ile Met Gly Asn Gly Arg Arg Arg Ser Ile Ser  
 1155 1160 1165  
 Cys Pro Ser Cys Asn Gly Gln Ala Asp Gly Asn Lys Leu Leu Ala Pro  
 1170 1175 1180  
 Val Ala Leu Ala Cys Gly Ile Asp Gly Ser Leu Tyr Val Gly Asp Phe  
 1185 1190 1195 1200  
 Asn Tyr Val Arg Arg Ile Phe Pro Ser Gly Asn Val Thr Ser Val Leu  
 1205 1210 1215

Glu Leu Arg Asn Lys Asp Phe Arg His Ser Ser Asn Pro Ala His Arg  
 1220 1225 1230  
 Tyr Tyr Leu Ala Thr Asp Pro Val Thr Gly Asp Leu Tyr Val Ser Asp  
 1235 1240 1245  
 Thr Asn Thr Arg Arg Ile Tyr Arg Pro Lys Ser Leu Thr Gly Ala Lys  
 1250 1255 1260  
 Asp Leu Thr Lys Asn Ala Glu Val Val Ala Gly Thr Gly Glu Gln Cys  
 1265 1270 1275 1280  
 Leu Pro Phe Asp Glu Ala Arg Cys Gly Asp Gly Gly Lys Ala Val Glu  
 1285 1290 1295  
 Ala Thr Leu Met Ser Pro Lys Gly Met Ala Ile Asp Lys Asn Gly Leu  
 1300 1305 1310  
 Ile Tyr Phe Val Asp Gly Thr Met Ile Arg Lys Val Asp Gln Asn Gly  
 1315 1320 1325  
 Ile Ile Ser Thr Leu Leu Gly Ser Asn Asp Leu Thr Ser Ala Arg Pro  
 1330 1335 1340  
 Leu Thr Cys Asp Thr Ser Met His Ile Ser Gln Val Arg Leu Glu Trp  
 1345 1350 1355 1360  
 Pro Thr Asp Leu Ala Ile Asn Pro Met Asp Asn Ser Ile Tyr Val Leu  
 1365 1370 1375  
 Asp Asn Asn Val Val Leu Gln Ile Thr Glu Asn Arg Gln Val Arg Ile  
 1380 1385 1390  
 Ala Ala Gly Arg Pro Met His Cys Gln Val Pro Gly Val Glu Tyr Pro  
 1395 1400 1405  
 Val Gly Lys His Ala Val Gln Thr Thr Leu Glu Ser Ala Thr Ala Ile  
 1410 1415 1420  
 Ala Val Ser Tyr Ser Gly Val Leu Tyr Ile Thr Glu Thr Asp Glu Lys  
 1425 1430 1435 1440  
 Lys Ile Asn Arg Ile Arg Gln Val Thr Thr Asp Gly Glu Ile Ser Leu  
 1445 1450 1455  
 Val Ala Gly Ile Pro Ser Glu Cys Asp Cys Lys Asn Asp Ala Asn Cys  
 1460 1465 1470  
 Asp Cys Tyr Gln Ser Gly Asp Gly Tyr Ala Lys Asp Ala Lys Leu Asn  
 1475 1480 1485  
 Ala Pro Ser Ser Leu Ala Ala Ser Pro Asp Gly Thr Leu Tyr Ile Ala  
 1490 1495 1500  
 Asp Leu Gly Asn Ile Arg Ile Arg Ala Val Ser Lys Asn Lys Pro Leu  
 1505 1510 1515 1520

Leu Asn Ser Met Asn Phe Tyr Glu Val Ala Ser Pro Thr Asp Gln Glu  
 1525 1530 1535  
 Leu Tyr Ile Phe Asp Ile Asn Gly Thr His Gln Tyr Thr Val Ser Leu  
 1540 1545 1550  
 Val Thr Gly Asp Tyr Leu Tyr Asn Phe Ser Tyr Ser Asn Asp Asn Asp  
 1555 1560 1565  
 Val Thr Ala Val Thr Asp Ser Asn Gly Asn Thr Leu Arg Ile Arg Arg  
 1570 1575 1580  
 Asp Pro Asn Arg Met Pro Val Arg Val Val Ser Pro Asp Asn Gln Val  
 1585 1590 1595 1600  
 Ile Trp Leu Thr Ile Gly Thr Asn Gly Cys Leu Lys Ser Met Thr Ala  
 1605 1610 1615  
 Gln Gly Leu Glu Leu Val Leu Phe Thr Tyr His Gly Asn Ser Gly Leu  
 1620 1625 1630  
 Leu Ala Thr Lys Ser Asp Glu Thr Gly Trp Thr Thr Phe Phe Asp Tyr  
 1635 1640 1645  
 Asp Ser Glu Gly Arg Leu Thr Asn Val Thr Phe Pro Thr Gly Val Val  
 1650 1655 1660  
 Thr Asn Leu His Gly Asp Met Asp Lys Ala Ile Thr Val Asp Ile Glu  
 1665 1670 1675 1680  
 Ser Ser Ser Arg Glu Glu Asp Val Ser Ile Thr Ser Asn Leu Ser Ser  
 1685 1690 1695  
 Ile Asp Ser Phe Tyr Thr Met Val Gln Asp Gln Leu Arg Asn Ser Tyr  
 1700 1705 1710  
 Gln Ile Gly Tyr Asp Gly Ser Leu Arg Ile Phe Tyr Ala Ser Gly Leu  
 1715 1720 1725  
 Asp Ser His Tyr Gln Thr Glu Pro His Val Leu Ala Gly Thr Ala Asn  
 1730 1735 1740  
 Pro Thr Val Ala Lys Arg Asn Met Thr Leu Pro Gly Glu Asn Gly Gln  
 1745 1750 1755 1760  
 Asn Leu Val Glu Trp Arg Phe Arg Lys Glu Gln Ala Gln Gly Lys Val  
 1765 1770 1775  
 Asn Val Phe Gly Arg Lys Leu Arg Val Asn Gly Arg Asn Leu Leu Ser  
 1780 1785 1790  
 Val Asp Phe Asp Arg Thr Thr Lys Thr Glu Lys Ile Tyr Asp Asp His  
 1795 1800 1805  
 Arg Lys Phe Leu Leu Arg Ile Ala Tyr Asp Thr Ser Gly His Pro Thr  
 1810 1815 1820

Leu Trp Leu Pro Ser Ser Lys Leu Met Ala Val Asn Val Thr Tyr Ser  
 1825                      1830                      1835                      1840

Ser Thr Gly Gln Ile Ala Ser Ile Gln Arg Gly Thr Thr Ser Glu Lys  
                     1845                      1850                      1855

Val Asp Tyr Asp Ser Gln Gly Arg Ile Val Ser Arg Val Phe Ala Asp  
                     1860                      1865                      1870

Gly Lys Thr Trp Ser Tyr Thr Tyr Leu Glu Lys Ser Met Val Leu Leu  
                     1875                      1880                      1885

Leu His Ser Gln Arg Gln Tyr Ile Phe Glu Tyr Asp Met Trp Asp Arg  
                     1890                      1895                      1900

Leu Ser Ala Ile Thr Met Pro Ser Val Ala Arg His Thr Met Gln Thr  
 1905                      1910                      1915                      1920

Ile Arg Ser Ile Gly Tyr Tyr Arg Asn Ile Tyr Asn Pro Pro Glu Ser  
                     1925                      1930                      1935

Asn Ala Ser Ile Ile Thr Asp Tyr Asn Glu Glu Gly Leu Leu Leu Gln  
                     1940                      1945                      1950

Thr Ala Phe Leu Gly Thr Ser Arg Arg Val Leu Phe Lys Tyr Arg Arg  
                     1955                      1960                      1965

Gln Thr Arg Leu Ser Glu Ile Leu Tyr Asp Ser Thr Arg Val Ser Phe  
                     1970                      1975                      1980

Thr Tyr Asp Glu Thr Ala Gly Val Leu Lys Thr Val Asn Leu Gln Ser  
 1985                      1990                      1995                      2000

Asp Gly Phe Ile Cys Thr Ile Arg Tyr Arg Gln Ile Gly Pro Leu Ile  
                     2005                      2010                      2015

Asp Arg Gln Ile Phe Arg Phe Ser Glu Asp Gly Met Val Asn Ala Arg  
                     2020                      2025                      2030

Phe Asp Tyr Ser Tyr Asp Asn Ser Phe Arg Val Thr Ser Met Gln Gly  
                     2035                      2040                      2045

Val Ile Asn Glu Thr Pro Leu Pro Ile Asp Leu Tyr Gln Phe Asp Asp  
                     2050                      2055                      2060

Ile Ser Gly Lys Val Glu Gln Phe Gly Lys Phe Gly Val Ile Tyr Tyr  
 2065                      2070                      2075                      2080

Asp Ile Asn Gln Ile Ile Ser Thr Ala Val Met Thr Tyr Thr Lys His  
                     2085                      2090                      2095

Phe Asp Ala His Gly Arg Ile Lys Glu Ile Gln Tyr Glu Ile Phe Arg  
                     2100                      2105                      2110

Ser Leu Met Tyr Trp Ile Thr Ile Gln Tyr Asp Asn Met Gly Arg Val  
                     2115                      2120                      2125



Thr Lys Arg Glu Ile Lys Ile Gly Pro Phe Ala Asn Thr Thr Lys Tyr  
 2130 2135 2140  
 Ala Tyr Glu Tyr Asp Val Asp Gly Gln Leu Gln Thr Val Tyr Leu Asn  
 2145 2150 2155 2160  
 Glu Lys Ile Met Trp Arg Tyr Asn Tyr Asp Leu Asn Gly Asn Leu His  
 2165 2170 2175  
 Leu Leu Asn Pro Ser Ser Ser Ala Arg Leu Thr Pro Leu Arg Tyr Asp  
 2180 2185 2190  
 Leu Arg Asp Arg Ile Thr Arg Leu Gly Asp Val Gln Tyr Arg Leu Asp  
 2195 2200 2205  
 Glu Asp Gly Phe Leu Arg Gln Arg Gly Thr Glu Ile Phe Glu Tyr Ser  
 2210 2215 2220  
 Ser Lys Gly Leu Leu Thr Arg Val Tyr Ser Lys Gly Ser Gly Trp Thr  
 2225 2230 2235 2240  
 Val Ile Tyr Arg Tyr Asp Gly Leu Gly Arg Arg Val Ser Ser Lys Thr  
 2245 2250 2255  
 Ser Leu Gly Gln His Leu Gln Phe Phe Tyr Ala Asp Leu Thr Tyr Pro  
 2260 2265 2270  
 Thr Arg Ile Thr His Val Tyr Asn His Ser Ser Ser Glu Ile Thr Ser  
 2275 2280 2285  
 Leu Tyr Tyr Asp Leu Gln Gly His Leu Phe Ala Met Glu Ile Ser Ser  
 2290 2295 2300  
 Gly Asp Glu Phe Tyr Ile Ala Ser Asp Asn Thr Gly Thr Pro Leu Ala  
 2305 2310 2315 2320  
 Val Phe Ser Ser Asn Gly Leu Met Leu Lys Gln Thr Gln Tyr Thr Ala  
 2325 2330 2335  
 Tyr Gly Glu Ile Tyr Phe Asp Ser Asn Val Asp Phe Gln Leu Val Ile  
 2340 2345 2350  
 Gly Phe His Gly Gly Leu Tyr Asp Pro Leu Thr Lys Leu Ile His Phe  
 2355 2360 2365  
 Gly Glu Arg Asp Tyr Asp Ile Leu Ala Gly Arg Trp Thr Thr Pro Asp  
 2370 2375 2380  
 Ile Glu Ile Trp Lys Arg Ile Gly Lys Asp Pro Ala Pro Phe Asn Leu  
 2385 2390 2395 2400  
 Tyr Met Phe Arg Asn Asn Asn Pro Ala Ser Lys Ile His Asp Val Lys  
 2405 2410 2415  
 Asp Tyr Ile Thr Asp Val Asn Ser Trp Leu Val Thr Phe Gly Phe His  
 2420 2425 2430

Leu His Asn Ala Ile Pro Gly Phe Pro Val Pro Lys Phe Asp Leu Thr  
 2435 2440 2445  
 Glu Pro Ser Tyr Glu Leu Val Lys Ser Gln Gln Trp Glu Asp Val Pro  
 2450 2455 2460  
 Pro Ile Phe Gly Val Gln Gln Gln Val Ala Arg Gln Ala Lys Ala Phe  
 2465 2470 2475 2480  
 Leu Ser Leu Gly Lys Met Ala Glu Val Gln Val Ser Arg Arg Lys Ala  
 2485 2490 2495  
 Gly Ala Glu Gln Ser Trp Leu Trp Phe Ala Thr Val Lys Ser Leu Ile  
 2500 2505 2510  
 Gly Lys Gly Val Met Leu Ala Val Ser Gln Gly Arg Val Gln Thr Asn  
 2515 2520 2525  
 Val Leu Asn Ile Ala Asn Glu Asp Cys Ile Lys Val Ala Ala Val Leu  
 2530 2535 2540  
 Asn Asn Ala Phe Tyr Leu Glu Asn Leu His Phe Thr Ile Glu Gly Lys  
 2545 2550 2555 2560  
 Asp Thr His Tyr Phe Ile Lys Thr Thr Thr Pro Glu Ser Asp Leu Gly  
 2565 2570 2575  
 Thr Leu Arg Leu Thr Ser Gly Arg Lys Ala Leu Glu Asn Gly Ile Asn  
 2580 2585 2590  
 Val Thr Val Ser Gln Ser Thr Thr Val Val Asn Gly Arg Thr Arg Arg  
 2595 2600 2605  
 Phe Ala Asp Val Glu Met Gln Phe Gly Ala Leu Ala Leu His Val Arg  
 2610 2615 2620  
 Tyr Gly Met Thr Leu Asp Glu Glu Lys Ala Arg Ile Leu Glu Gln Ala  
 2625 2630 2635 2640  
 Arg Gln Arg Ala Leu Ala Arg Ala Trp Ala Arg Glu Gln Gln Arg Val  
 2645 2650 2655  
 Arg Asp Gly Glu Glu Gly Ala Arg Leu Trp Thr Glu Gly Glu Lys Arg  
 2660 2665 2670  
 Gln Leu Leu Ser Ala Gly Lys Val Gln Gly Tyr Asp Gly Tyr Tyr Val  
 2675 2680 2685  
 Leu Ser Val Glu Gln Tyr Pro Glu Leu Ala Asp Ser Ala Asn Asn Ile  
 2690 2695 2700  
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<212> PRT

<213> *Drosophila melanogaster*

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Gly	Ile	Gly	Ser	Ile	Ser	Val	Leu	Phe	Ala	Phe	Val	Val	Met	Leu	Ile	
			20					25					30			
Leu	Leu	Thr	Thr	Thr	Gly	Val	Ile	Lys	Trp	Asn	Gln	Ser	Pro	Pro	Cys	
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Ser	Val	Leu	Val	Gly	Asn	Glu	Ala	Ser	Glu	Val	Thr	Ala	Ala	Lys	Ser	
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Thr	Asn	Thr	Asp	Leu	Ser	Lys	Leu	His	Asn	Ser	Ser	Val	Arg	Ala	Lys	
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Asn	Gly	Gln	Gly	Ile	Gly	Leu	Ala	Gln	Gly	Gln	Ser	Gly	Leu	Gly	Ala	
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Ala	Gly	Val	Gly	Ser	Gly	Gly	Gly	Ser	Ser	Ala	Ala	Thr	Val	Thr	Thr	
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Ala	Thr	Ser	Asn	Ser	Gly	Thr	Ala	Gln	Gly	Leu	Gln	Ser	Thr	Ser	Ala	
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Ser	Ala	Glu	Ala	Thr	Ser	Ser	Ala	Ala	Thr	Ser	Ser	Ser	Gln	Ser	Ser	
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Leu	Thr	Pro	Ser	Leu	Ser	Ser	Ser	Leu	Ala	Asn	Ala	Asn	Asn	Gly	Gly	
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Ala	Arg	Thr	Phe	Pro	Ala	Arg	Ser	Phe	Pro	Pro	Asp	Gly	Thr	Thr	Phe	
				165					170					175		
Gly	Gln	Ile	Thr	Leu	Gly	Gln	Lys	Leu	Thr	Lys	Glu	Ile	Gln	Pro	Tyr	
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Ser	Tyr	Trp	Asn	Met	Gln	Phe	Tyr	Gln	Ser	Glu	Pro	Ala	Tyr	Val	Lys	
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Phe	Asp	Tyr	Thr	Ile	Pro	Arg	Gly	Ala	Ser	Ile	Gly	Val	Tyr	Gly	Arg	
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Arg	Asn	Ala	Leu	Pro	Thr	His	Thr	Gln	Tyr	His	Phe	Lys	Glu	Val	Leu	
225					230					235					240	
Ser	Gly	Phe	Ser	Ala	Ser	Thr	Arg	Thr	Ala	Arg	Ala	Ala	His	Leu	Ser	
				245					250					255		
Ile	Thr	Arg	Glu	Val	Thr	Arg	Tyr	Met	Glu	Pro	Gly	His	Trp	Phe	Val	
			260					265					270			
Ser	Leu	Tyr	Asn	Asp	Asp	Gly	Asp	Val	Gln	Glu	Leu	Thr	Phe	Tyr	Ala	
		275					280					285				

Ala	Val	Ala	Glu	Asp	Met	Thr	Gln	Asn	Cys	Pro	Asn	Gly	Cys	Ser	Gly	290	295	300
Asn	Gly	Gln	Cys	Leu	Leu	Gly	His	Cys	Gln	Cys	Asn	Pro	Gly	Phe	Gly	305	310	315
Gly	Asp	Asp	Cys	Ser	Glu	Ser	Val	Cys	Pro	Val	Leu	Cys	Ser	Gln	His	325	330	335
Gly	Glu	Tyr	Thr	Asn	Gly	Glu	Cys	Ile	Cys	Asn	Pro	Gly	Trp	Lys	Gly	340	345	350
Lys	Glu	Cys	Ser	Leu	Arg	His	Asp	Glu	Cys	Glu	Val	Ala	Asp	Cys	Ser	355	360	365
Gly	His	Gly	His	Cys	Val	Ser	Gly	Lys	Cys	Gln	Cys	Met	Arg	Gly	Tyr	370	375	380
Lys	Gly	Lys	Phe	Cys	Glu	Glu	Val	Asp	Cys	Pro	His	Pro	Asn	Cys	Ser	385	390	395
Gly	His	Gly	Phe	Cys	Ala	Asp	Gly	Thr	Cys	Ile	Cys	Lys	Lys	Gly	Trp	405	410	415
Lys	Gly	Pro	Asp	Cys	Ala	Thr	Met	Asp	Gln	Asp	Ala	Leu	Gln	Cys	Leu	420	425	430
Pro	Asp	Cys	Ser	Gly	His	Gly	Thr	Phe	Asp	Leu	Asp	Thr	Gln	Thr	Cys	435	440	445
Thr	Cys	Glu	Ala	Lys	Trp	Ser	Gly	Asp	Asp	Cys	Ser	Lys	Glu	Leu	Cys	450	455	460
Asp	Leu	Asp	Cys	Gly	Gln	His	Gly	Arg	Cys	Glu	Gly	Asp	Ala	Cys	Ala	465	470	475
Cys	Asp	Pro	Glu	Trp	Gly	Gly	Glu	Tyr	Cys	Asn	Thr	Arg	Leu	Cys	Asp	485	490	495
Val	Arg	Cys	Asn	Glu	His	Gly	Gln	Cys	Lys	Asn	Gly	Thr	Cys	Leu	Cys	500	505	510
Val	Thr	Gly	Trp	Asn	Gly	Lys	His	Cys	Thr	Ile	Glu	Gly	Cys	Pro	Asn	515	520	525
Ser	Cys	Ala	Gly	His	Gly	Gln	Cys	Arg	Val	Ser	Gly	Glu	Gly	Gln	Trp	530	535	540
Glu	Cys	Arg	Cys	Tyr	Glu	Gly	Trp	Asp	Gly	Pro	Asp	Cys	Gly	Ile	Ala	545	550	555
Leu	Glu	Leu	Asn	Cys	Gly	Asp	Ser	Lys	Asp	Asn	Asp	Lys	Asp	Gly	Leu	565	570	575
Val	Asp	Cys	Glu	Asp	Pro	Glu	Cys	Cys	Ala	Ser	His	Val	Cys	Lys	Thr	580	585	590

Ser	Gln	Leu	Cys	Val	Ser	Ala	Pro	Lys	Pro	Ile	Asp	Val	Leu	Leu	Arg		
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Lys	Gln	Pro	Pro	Ala	Ile	Thr	Ala	Ser	Phe	Phe	Glu	Arg	Met	Lys	Phe		
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Leu	Ile	Asp	Glu	Ser	Ser	Leu	Gln	Asn	Tyr	Ala	Lys	Leu	Glu	Thr	Phe		
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Asn	Glu	Ser	Arg	Ser	Ala	Val	Ile	Arg	Gly	Arg	Val	Val	Thr	Ser	Leu		
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Gly	Met	Gly	Leu	Val	Gly	Val	Arg	Val	Ser	Thr	Thr	Thr	Leu	Leu	Glu		
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Gly	Phe	Thr	Leu	Thr	Arg	Asp	Asp	Gly	Trp	Phe	Asp	Leu	Met	Val	Asn		
		675					680					685					
Gly	Gly	Gly	Ala	Val	Thr	Leu	Gln	Phe	Gly	Arg	Ala	Pro	Phe	Arg	Pro		
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Gln	Ser	Arg	Ile	Val	Gln	Val	Pro	Trp	Asn	Glu	Val	Val	Ile	Ile	Asp		
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Leu	Val	Val	Met	Ser	Met	Ser	Glu	Glu	Lys	Gly	Leu	Ala	Val	Thr	Thr		
				725					730					735			
Thr	His	Thr	Cys	Phe	Ala	His	Asp	Tyr	Asp	Leu	Met	Lys	Pro	Val	Val		
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Leu	Ala	Ser	Trp	Lys	His	Gly	Phe	Gln	Gly	Ala	Cys	Pro	Asp	Arg	Ser		
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Ala	Ile	Leu	Ala	Glu	Ser	Gln	Val	Ile	Gln	Glu	Ser	Leu	Gln	Ile	Pro		
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Leu	Ser	Thr	Ile	Lys	Leu	Gln	Leu	Thr	Pro	Asp	Val	Ile	Pro	Thr	Ser		
				805					810					815			
Leu	His	Leu	Ile	His	Leu	Arg	Ile	Thr	Ile	Glu	Gly	Ile	Leu	Phe	Glu		
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Arg	Ile	Phe	Glu	Ala	Asp	Pro	Gly	Ile	Lys	Phe	Thr	Tyr	Ala	Trp	Asn		
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Arg	Leu	Asn	Ile	Tyr	Arg	Gln	Arg	Val	Tyr	Gly	Val	Thr	Thr	Ala	Val		
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Ile	Gln	Thr	Thr	Lys	Leu	Ser	Gly	His	Asp	Met	Ser	Ile	Ser	Glu	Val		
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Gly Gly Trp Asn Leu Asp Ile His His Arg Tyr Asn Phe His Glu Gly  
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 Ile Leu Gln Lys Gly Asp Gly Ser Asn Ile Tyr Leu Arg Asn Lys Pro  
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 Arg Ile Ile Leu Thr Thr Met Gly Asp Gly His Gln Arg Pro Leu Glu  
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 Cys Pro Asp Cys Asp Gly Gln Ala Thr Lys Gln Arg Leu Leu Ala Pro  
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 Val Ala Leu Ala Ala Ala Pro Asp Gly Ser Leu Phe Val Gly Asp Phe  
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 Asn Tyr Ile Arg Arg Ile Met Thr Asp Gly Ser Ile Arg Thr Val Val  
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 Lys Leu Asn Ala Thr Arg Val Ser Tyr Arg Tyr His Met Ala Leu Ser  
 995 1000 1005  
 Pro Leu Asp Gly Thr Leu Tyr Val Ser Asp Pro Glu Ser His Gln Ile  
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 Ile Arg Val Arg Asp Thr Asn Asp Tyr Ser Gln Pro Glu Leu Asn Trp  
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 Glu Ala Val Val Gly Ser Gly Glu Arg Cys Leu Pro Gly Asp Glu Ala  
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 His Cys Gly Asp Gly Ala Leu Ala Lys Asp Ala Lys Leu Ala Tyr Pro  
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 Lys Gly Ile Ala Ile Ser Ser Asp Asn Ile Leu Tyr Phe Ala Asp Gly  
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 Thr Asn Ile Arg Met Val Asp Arg Asp Gly Ile Val Ser Thr Leu Ile  
 1090 1095 1100  
 Gly Asn His Met His Lys Ser His Trp Lys Pro Ile Pro Cys Glu Gly  
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 Thr Leu Lys Leu Glu Glu Met His Leu Arg Trp Pro Thr Glu Leu Ala  
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 Val Ser Pro Met Asp Asn Thr Leu His Ile Ile Asp Asp His Met Ile  
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 Leu Arg Met Thr Pro Asp Gly Arg Val Arg Val Ile Ser Gly Arg Pro  
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 Leu His Cys Ala Thr Ala Ser Thr Ala Tyr Asp Thr Asp Leu Ala Thr  
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 His Ala Thr Leu Val Met Pro Gln Ser Ile Ala Phe Gly Pro Leu Gly  
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Glu Leu Tyr Val Ala Glu Ser Asp Ser Gln Arg Ile Asn Arg Val Arg  
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 Val Ile Gly Thr Asp Gly Arg Ile Ala Pro Phe Ala Gly Ala Glu Ser  
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 Lys Cys Asn Cys Leu Glu Arg Gly Cys Asp Cys Phe Glu Ala Glu His  
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 Tyr Leu Ala Thr Ser Ala Lys Phe Asn Thr Ile Ala Ala Leu Ala Val  
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 Thr Pro Asp Ser His Val His Ile Ala Asp Gln Ala Asn Tyr Arg Ile  
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 Arg Ser Val Met Ser Ser Ile Pro Glu Ala Ser Pro Ser Arg Glu Tyr  
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 Glu Ile Tyr Ala Pro Asp Met Gln Glu Ile Tyr Ile Phe Asn Arg Phe  
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 Gly Gln His Val Ser Thr Arg Asn Ile Leu Thr Gly Glu Thr Thr Tyr  
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 Val Phe Thr Tyr Asn Val Asn Thr Ser Asn Gly Lys Leu Ser Thr Val  
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 Thr Asp Ala Ala Gly Asn Lys Val Phe Leu Leu Arg Asp Tyr Thr Ser  
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 Gln Val Asn Ser Ile Glu Asn Thr Lys Gly Gln Lys Cys Arg Leu Arg  
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 Met Thr Arg Met Lys Met Leu His Glu Leu Ser Thr Pro Asp Asn Tyr  
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 Asn Val Thr Tyr Glu Tyr His Gly Pro Thr Gly Leu Leu Arg Thr Lys  
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 Arg Leu Thr Ser Ala Val Thr Pro Thr Gly Arg Val Ile Glu Leu Ser  
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 Phe Asp Leu Ser Val Lys Gly Ala Gln Val Lys Val Ser Glu Asn Ala  
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 Gln Lys Glu Met Ser Leu Leu Ile Gln Gly Ala Thr Val Ile Val Arg  
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 Asn Gly Ala Ala Glu Ser Arg Thr Thr Val Asp Met Asp Gly Ser Thr  
 1475 1480 1485  
 Thr Ser Ile Thr Pro Trp Gly His Asn Leu Gln Met Glu Val Ala Pro  
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Tyr Thr Ile Leu Ala Glu Gln Ser Pro Leu Leu Gly Glu Ser Tyr Pro  
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 Val Pro Ala Lys Gln Arg Thr Glu Ile Ala Gly Asp Leu Ala Asn Arg  
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 Phe Glu Trp Arg Tyr Phe Val Arg Arg Gln Gln Pro Leu Gln Ala Gly  
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 Lys Gln Ser Lys Gly Pro Pro Arg Pro Val Thr Glu Val Gly Arg Lys  
 1555 1560 1565  
 Leu Arg Val Asn Gly Asp Asn Val Leu Thr Leu Glu Tyr Asp Arg Glu  
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 Thr Gln Ser Val Val Val Met Val Asp Asp Lys Gln Glu Leu Leu Asn  
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 Val Thr Tyr Asp Arg Thr Ser Arg Pro Ile Ser Phe Arg Pro Gln Ser  
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 Gly Asp Tyr Ala Tyr Val Asp Leu Glu Tyr Asp Arg Phe Gly Arg Leu  
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 Val Ser Trp Lys Trp Gly Val Leu Gln Glu Ala Tyr Ser Phe Asp Arg  
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 Asn Gly Arg Leu Asn Glu Ile Lys Tyr Gly Asp Gly Ser Thr Met Val  
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 Tyr Ala Phe Lys Asp Met Phe Gly Ser Leu Pro Leu Lys Val Thr Thr  
 1665 1670 1675 1680  
 Pro Arg Arg Ser Asp Tyr Leu Leu Gln Tyr Asp Asp Ala Gly Ala Leu  
 1685 1690 1695  
 Gln Ser Leu Thr Thr Pro Arg Gly His Ile His Ala Phe Ser Leu Gln  
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 Thr Ser Leu Gly Phe Phe Lys Tyr Gln Tyr Tyr Ser Pro Ile Asn Arg  
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 His Pro Phe Glu Ile Leu Tyr Asn Asp Glu Gly Gln Ile Leu Ala Lys  
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 Ile His Pro His Gln Ser Gly Lys Val Ala Phe Val His Asp Thr Ala  
 1745 1750 1755 1760  
 Gly Arg Leu Glu Thr Ile Leu Ala Gly Leu Ser Ser Thr His Tyr Thr  
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 Tyr Gln Asp Thr Thr Ser Leu Val Lys Ser Val Glu Val Gln Glu Pro  
 1780 1785 1790  
 Gly Phe Glu Leu Arg Arg Glu Phe Lys Tyr His Ala Gly Ile Leu Lys  
 1795 1800 1805



Asp Glu Lys Leu Arg Phe Gly Ser Lys Asn Ser Leu Ala Ser Ala Arg  
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 Tyr Lys Tyr Ala Tyr Asp Gly Asn Ala Arg Leu Ser Gly Ile Glu Met  
 1825 1830 1835 1840  
 Ala Ile Asp Asp Lys Glu Leu Pro Thr Thr Arg Tyr Lys Tyr Ser Gln  
 1845 1850 1855  
 Asn Leu Gly Gln Leu Glu Val Val Gln Asp Leu Lys Ile Thr Arg Asn  
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 Ala Phe Asn Arg Thr Val Ile Gln Asp Ser Ala Lys Gln Phe Phe Ala  
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 Ile Val Asp Tyr Asp Gln His Gly Arg Val Lys Ser Val Leu Met Asn  
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 Val Lys Asn Ile Asp Val Phe Arg Leu Glu Leu Asp Tyr Asp Leu Arg  
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 Asn Arg Ile Lys Ser Gln Lys Thr Thr Phe Gly Arg Ser Thr Ala Phe  
 1925 1930 1935  
 Asp Lys Ile Asn Tyr Asn Ala Asp Gly His Val Val Glu Val Leu Gly  
 1940 1945 1950  
 Thr Asn Asn Trp Lys Tyr Leu Phe Asp Glu Asn Gly Asn Thr Val Gly  
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 Val Val Asp Gln Gly Glu Lys Phe Asn Leu Gly Tyr Asp Ile Gly Asp  
 1970 1975 1980  
 Arg Val Ile Lys Val Gly Asp Val Glu Phe Asn Asn Tyr Asp Ala Arg  
 1985 1990 1995 2000  
 Gly Phe Val Val Lys Arg Gly Glu Gln Lys Tyr Arg Tyr Asn Asn Arg  
 2005 2010 2015  
 Gly Gln Leu Ile His Ser Phe Glu Arg Glu Arg Phe Gln Ser Trp Tyr  
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 Asn Thr Thr Gln Tyr Tyr Tyr Ala Asn Pro Arg Thr Pro His Leu Val  
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 Asp Asp Arg Asp Met Leu Ile Ala Leu Glu His Glu Asp Gln Arg Tyr  
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 Tyr Val Ala Thr Asp Gln Asn Gly Ser Pro Leu Ala Phe Phe Asp Gln  
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Asn Gly Ser Ile Val Lys Glu Met Lys Arg Thr Pro Phe Gly Arg Ile  
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 Ile Lys Asp Thr Lys Pro Glu Phe Phe Val Pro Ile Asp Phe His Gly  
 2130 2135 2140  
 Gly Leu Ile Asp Pro His Thr Lys Leu Val Tyr Thr Glu Gln Arg Gln  
 2145 2150 2155 2160  
 Tyr Asp Pro His Val Gly Gln Trp Met Thr Pro Leu Trp Glu Thr Leu  
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 Ala Thr Glu Met Ser His Pro Thr Asp Val Phe Ile Tyr Arg Tyr His  
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 Asn Asn Asp Pro Ile Asn Pro Asn Lys Pro Gln Asn Tyr Met Ile Asp  
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 Ser Ser Arg Tyr Thr Lys Leu Ala Gln Tyr Thr Pro Gln Ala Ser Ile  
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 Lys Ser Asn Thr Leu Ala Pro Asp Phe Gly Val Ile Ser Gly Leu Glu  
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 Cys Ile Val Glu Lys Thr Ser Glu Lys Phe Ser Asp Phe Asp Phe Val  
 2260 2265 2270  
 Pro Lys Pro Leu Leu Lys Thr Glu Pro Lys Met Arg Asn Leu Leu Pro  
 2275 2280 2285  
 Arg Val Ser Tyr Arg Arg Gly Val Phe Gly Glu Gly Val Leu Leu Ser  
 2290 2295 2300  
 Arg Ile Gly Gly Arg Ala Leu Val Ser Val Val Asp Gly Ser Asn Ser  
 2305 2310 2315 2320  
 Val Val Gln Asp Val Val Ser Ser Val Phe Asn Asn Ser Tyr Phe Leu  
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 Asp Leu His Phe Ser Ile His Asp Gln Asp Val Phe Tyr Phe Val Lys  
 2340 2345 2350  
 Asp Asn Val Leu Lys Leu Arg Asp Asp Asn Glu Glu Leu Arg Arg Leu  
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 Gly Gly Met Phe Asn Ile Ser Thr His Glu Ile Ser Asp His Gly Gly  
 2370 2375 2380  
 Ser Ala Ala Lys Glu Leu Arg Leu His Gly Pro Asp Ala Val Val Ile  
 2385 2390 2395 2400  
 Ile Lys Tyr Gly Val Asp Pro Glu Gln Glu Arg His Arg Ile Leu Lys  
 2405 2410 2415

His Ala His Lys Arg Ala Val Glu Arg Ala Trp Glu Leu Glu Lys Gln  
 2420 2425 2430

Leu Val Ala Ala Gly Phe Gln Gly Arg Gly Asp Trp Thr Glu Glu Glu  
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Lys Glu Glu Leu Val Gln His Gly Asp Val Asp Gly Trp Asn Gly Ile  
 2450 2455 2460

Asp Ile His Ser Ile His Lys Tyr Pro Gln Leu Ala Asp Asp Pro Gly  
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Asn Val Ala Phe Gln Arg Asp Ala Lys Arg Lys Arg Arg Lys Thr Gly  
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Leu Ser Ala  
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Ser Leu Arg Ile Ile Tyr Ala Ser Gly Leu Asp Ser His Tyr Gln Thr  
 50 55 60

Glu Pro His Val Leu Ala Gly Thr Ala Asn Pro Thr Val Ala Lys Arg  
 65 70 75 80

Asn Met Thr Leu Pro Gly Glu Asn Gly Gln Asn Leu Val Glu Trp Arg  
 85 90 95

Phe Arg Lys Glu Gln Ala Gln Gly Lys Val Asn Val Phe Gly Arg Lys  
 100 105 110

Leu Arg Val Asn Gly Arg Asn Leu Leu Ser Val Asp Phe Asp Arg Thr  
 115 120 125

Thr Lys Thr Glu Lys Ile Tyr Asp Asp His Arg Lys Phe Leu Leu Arg  
 130 135 140

Ile Ala Tyr Asp Thr Ser Gly His Pro Thr Leu Trp Leu Pro Ser Ser

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Lys Leu Met Ala Val Asn Val Thr Tyr Ser Ser Thr Gly Gln Ile Ala						
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Ser Ile Gln Arg Gly Thr Thr Ser Glu Lys Val Asp Tyr Asp Gly Gln						
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Gly Arg Ile Val Ser Arg Val Phe Ala Asp Gly Lys Thr Trp Ser Tyr						
	195		200		205	
Thr Tyr Leu Glu Lys Ser Met Val Leu Leu Leu His Ser Gln Arg Gln						
	210		215		220	
Tyr Ile Phe Glu Tyr Asp Met Trp Asp Arg Leu Ser Ala Ile Thr Met						
	225		230		235	240
Pro Ser Val Ala Arg His Thr Met Gln Thr Ile Arg Ser Ile Gly Tyr						
		245		250		255
Tyr Arg Asn Ile Tyr Asn Pro Pro Glu Ser Asn Ala Ser Ile Ile Thr						
	260		265		270	
Asp Tyr Asn Glu Glu Gly Leu Leu Leu Gln Thr Ala Phe Leu Gly Thr						
	275		280		285	
Ser Arg Arg Val Leu Phe Lys Tyr Arg Arg Gln Thr Arg Leu Ser Glu						
	290		295		300	
Ile Leu Tyr Asp Ser Thr Arg Val Ser Phe Thr Tyr Asp Glu Thr Ala						
	305		310		315	320
Gly Val Leu Lys Thr Val Asn Leu Gln Ser Asp Gly Phe Ile Cys Thr						
		325		330		335
Ile Arg Tyr Arg Gln Ile Gly Pro Leu Ile Asp Arg Gln Ile Phe Arg						
	340		345		350	
Phe Ser Glu Asp Gly Met Val Asn Ala Arg Phe Asp Tyr Ser Tyr Asp						
	355		360		365	
Asn Ser Phe Arg Val Thr Ser Met Gln Gly Val Ile Asn Glu Thr Pro						
	370		375		380	
Leu Pro Ile Asp Leu Tyr Gln Phe Asp Asp Ile Ser Gly Lys Val Glu						
	385		390		395	400
Gln Phe Gly Lys Phe Gly Val Ile Tyr Tyr Asp Ile Asn Gln Ile Ile						
		405		410		415
Ser Thr Ala Val Met Thr Tyr Thr Lys His Phe Asp Ala His Gly Arg						
	420		425		430	
Ile Lys Glu Ile Gln Tyr Glu Ile Phe Arg Ser Leu Met Tyr Trp Ile						
	435		440		445	
Thr Ile Gln Tyr Asp Asn Met Gly Arg Val Thr Lys Arg Glu Ile Lys						

450	455	460
Ile Gly Pro Phe Ala Asn Thr Thr Lys Tyr Ala Tyr Glu Tyr Asp Val 465 470 475 480		
Asp Gly Gln Leu Gln Thr Val Tyr Leu Asn Glu Lys Ile Met Trp Arg 485 490 495		
Tyr Asn Tyr Asp Leu Asn Gly Asn Leu His Leu Leu Asn Pro Ser Asn 500 505 510		
Ser Ala Arg Leu Thr Pro Leu Arg Tyr Asp Leu Arg Asp Arg Ile Thr 515 520 525		
Arg Leu Gly Asp Val Gln Tyr Arg Leu Asp Glu Asp Gly Phe Leu Arg 530 535 540		
Gln Arg Gly Thr Glu Ile Phe Glu Tyr Ser Ser Lys Gly Leu Leu Thr 545 550 555 560		
Arg Val Tyr Ser Lys Gly Ser Gly Trp Thr Val Ile Tyr Arg Tyr Asp 565 570 575		
Gly Leu Gly Arg Arg Val Ser Ser Lys Thr Ser Leu Gly Gln His Leu 580 585 590		
Gln Phe Phe Tyr Ala Asp Leu Thr Tyr Pro Thr Arg Ile Thr His Val 595 600 605		
Tyr Asn His Ser Ser Ser Glu Ile Thr Ser Leu Tyr Tyr Asp Leu Gln 610 615 620		
Gly His Leu Phe Ala Met Glu Ile Ser Ser Gly Asp Glu Phe Tyr Ile 625 630 635 640		
Ala Ser Asp Asn Thr Gly Thr Pro Leu Ala Val Phe Ser Ser Asn Gly 645 650 655		
Leu Met Leu Lys Gln Ile Gln Tyr Thr Ala Tyr Gly Glu Ile Tyr Phe 660 665 670		
Asp Ser Asn Ile Asp Phe Gln Leu Val Ile Gly Phe His Gly Gly Leu 675 680 685		
Tyr Asp Pro Leu Thr Lys Leu Ile His Phe Gly Glu Arg Asp Tyr Asp 690 695 700		
Ile Leu Ala Gly Arg Trp Thr Thr Pro Asp Ile Glu Ile Trp Lys Arg 705 710 715 720		
Ile Gly Lys Asp Pro Ala Pro Phe Asn Leu Tyr Met Phe Arg Asn Asn 725 730 735		
Asn Pro Ala Ser Lys Ile His Asp Val Lys Asp Tyr Ile Thr Asp Val 740 745 750		
Asn Ser Trp Leu Val Thr Phe Gly Phe His Leu His Asn Ala Ile Pro		

755					760					765					
Gly	Phe	Pro	Val	Pro	Lys	Phe	Asp	Leu	Thr	Glu	Pro	Ser	Tyr	Glu	Leu
770						775					780				
Val	Lys	Ser	Gln	Gln	Trp	Asp	Asp	Ile	Pro	Pro	Ile	Phe	Gly	Val	Gln
785					790					795					800
Gln	Gln	Val	Ala	Arg	Gln	Ala	Lys	Ala	Phe	Leu	Ser	Leu	Gly	Lys	Met
				805					810					815	
Ala	Glu	Val	Gln	Val	Ser	Arg	Arg	Arg	Ala	Gly	Gly	Ala	Gln	Ser	Trp
			820					825					830		
Leu	Trp	Phe	Ala	Thr	Val	Lys	Ser	Leu	Ile	Gly	Lys	Gly	Val	Met	Leu
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Ala	Val	Ser	Gln	Gly	Arg	Val	Gln	Thr	Asn	Val	Leu	Asn	Ile	Ala	Asn
	850					855					860				
Glu	Asp	Cys	Ile	Lys	Val	Ala	Ala	Val	Leu	Asn	Asn	Ala	Phe	Tyr	Leu
865					870					875					880
Glu	Asn	Leu	His	Phe	Thr	Ile	Glu	Gly	Lys	Asp	Thr	His	Tyr	Phe	Ile
				885					890					895	
Lys	Thr	Thr	Thr	Pro	Glu	Ser	Asp	Leu	Gly	Thr	Leu	Arg	Leu	Thr	Ser
			900					905					910		
Gly	Arg	Lys	Ala	Leu	Glu	Asn	Gly	Ile	Asn	Val	Thr	Val	Ser	Gln	Ser
		915					920					925			
Thr	Thr	Val	Val	Asn	Gly	Arg	Thr	Arg	Arg	Phe	Ala	Asp	Val	Glu	Met
	930					935					940				
Gln	Phe	Gly	Ala	Leu	Ala	Leu	His	Val	Arg	Tyr	Gly	Met	Thr	Leu	Asp
945					950					955					960
Glu	Glu	Lys	Ala	Arg	Ile	Leu	Glu	Gln	Ala	Arg	Gln	Arg	Ala	Leu	Ala
				965					970					975	
Arg	Ala	Trp	Ala	Arg	Glu	Gln	Gln	Arg	Val	Arg	Asp	Gly	Glu	Glu	Gly
			980					985					990		
Ala	Arg	Leu	Trp	Thr	Glu	Gly	Glu	Lys	Arg	Gln	Leu	Leu	Ser	Ala	Gly
		995					1000					1005			
Lys	Val	Gln	Gly	Tyr	Asp	Gly	Tyr	Tyr	Val	Leu	Ser	Val	Glu	Gln	Tyr
1010						1015					1020				
Pro	Glu	Leu	Ala	Asp	Ser	Ala	Asn	Asn	Ile	Gln	Phe	Leu	Arg	Gln	Ser
1025					1030					1035					1040
Glu	Ile	Gly	Arg	Arg											
				1045											

<210> 55  
 <211> 964  
 <212> PRT  
 <213> Homo sapiens

<400> 55  
 Met Thr Leu Pro Gly Glu Asn Gly Gln Asn Leu Val Glu Trp Arg Phe  
     1                    5                    10                    15  
 Arg Lys Glu Gln Ala Gln Gly Lys Val Asn Val Phe Gly Arg Lys Leu  
                     20                    25                    30  
 Arg Val Asn Gly Arg Asn Leu Leu Ser Val Asp Phe Asp Arg Thr Thr  
                     35                    40                    45  
 Lys Thr Glu Lys Ile Tyr Asp Asp His Arg Lys Phe Leu Leu Arg Ile  
                     50                    55                    60  
 Ala Tyr Asp Thr Ser Gly His Pro Thr Leu Trp Leu Pro Ser Ser Lys  
                     65                    70                    75                    80  
 Leu Met Ala Val Asn Val Thr Tyr Ser Ser Thr Gly Gln Ile Ala Ser  
                     85                    90                    95  
 Ile Gln Arg Gly Thr Thr Ser Glu Lys Val Asp Tyr Asp Gly Gln Gly  
                     100                    105                    110  
 Arg Ile Val Ser Arg Val Phe Ala Asp Gly Lys Thr Trp Ser Tyr Thr  
                     115                    120                    125  
 Tyr Leu Glu Lys Ser Met Val Leu Leu Leu His Ser Gln Arg Gln Tyr  
                     130                    135                    140  
 Ile Phe Glu Tyr Asp Met Trp Asp Arg Leu Ser Ala Ile Thr Met Pro  
                     145                    150                    155                    160  
 Ser Val Ala Arg His Thr Met Gln Thr Ile Arg Ser Ile Gly Tyr Tyr  
                     165                    170                    175  
 Arg Asn Ile Tyr Asn Pro Pro Glu Ser Asn Ala Ser Ile Ile Thr Asp  
                     180                    185                    190  
 Tyr Asn Glu Glu Gly Leu Leu Leu Gln Thr Ala Phe Leu Gly Thr Ser  
                     195                    200                    205  
 Arg Arg Val Leu Phe Lys Tyr Arg Arg Gln Thr Arg Leu Ser Glu Ile  
                     210                    215                    220  
 Leu Tyr Asp Ser Thr Arg Val Ser Phe Thr Tyr Asp Glu Thr Ala Gly  
                     225                    230                    235                    240  
 Val Leu Lys Thr Val Asn Leu Gln Ser Asp Gly Phe Ile Cys Thr Ile  
                     245                    250                    255  
 Arg Tyr Arg Gln Ile Gly Pro Leu Ile Asp Arg Gln Ile Phe Arg Phe  
                     260                    265                    270

Ser Glu Asp Gly Met Val Asn Ala Arg Phe Asp Tyr Ser Tyr Asp Asn  
 275 280 285

Ser Phe Arg Val Thr Ser Met Gln Gly Val Ile Asn Glu Thr Pro Leu  
 290 295 300

Pro Ile Asp Leu Tyr Gln Phe Asp Asp Ile Ser Gly Lys Val Glu Gln  
 305 310 315 320

Phe Gly Lys Phe Gly Val Ile Tyr Tyr Asp Ile Asn Gln Ile Ile Ser  
 325 330 335

Thr Ala Val Met Thr Tyr Thr Lys His Phe Asp Ala His Gly Arg Ile  
 340 345 350

Lys Glu Ile Gln Tyr Glu Ile Phe Arg Ser Leu Met Tyr Trp Ile Thr  
 355 360 365

Ile Gln Tyr Asp Asn Met Gly Arg Val Thr Lys Arg Glu Ile Lys Ile  
 370 375 380

Gly Pro Phe Ala Asn Thr Thr Lys Tyr Ala Tyr Glu Tyr Asp Val Asp  
 385 390 395 400

Gly Gln Leu Gln Thr Val Tyr Leu Asn Glu Lys Ile Met Trp Arg Tyr  
 405 410 415

Asn Tyr Asp Leu Asn Gly Asn Leu His Leu Leu Asn Pro Ser Asn Ser  
 420 425 430

Ala Arg Leu Thr Pro Leu Arg Tyr Asp Leu Arg Asp Arg Ile Thr Arg  
 435 440 445

Leu Gly Asp Val Gln Tyr Arg Leu Asp Glu Asp Gly Phe Leu Arg Gln  
 450 455 460

Arg Gly Thr Glu Ile Phe Glu Tyr Ser Ser Lys Gly Leu Leu Thr Arg  
 465 470 475 480

Val Tyr Ser Lys Gly Ser Gly Trp Thr Val Ile Tyr Arg Tyr Asp Gly  
 485 490 495

Leu Gly Arg Arg Val Ser Ser Lys Thr Ser Leu Gly Gln His Leu Gln  
 500 505 510

Phe Phe Tyr Ala Asp Leu Thr Tyr Pro Thr Arg Ile Thr His Val Tyr  
 515 520 525

Asn His Ser Ser Ser Glu Ile Thr Ser Leu Tyr Tyr Asp Leu Gln Gly  
 530 535 540

His Leu Phe Ala Met Glu Ile Ser Ser Gly Asp Glu Phe Tyr Ile Ala  
 545 550 555 560

Ser Asp Asn Thr Gly Thr Pro Leu Ala Val Phe Ser Ser Asn Gly Leu  
 565 570 575



Met	Leu	Lys	Gln	Ile	Gln	Tyr	Thr	Ala	Tyr	Gly	Glu	Ile	Tyr	Phe	Asp	
			580					585					590			
Ser	Asn	Ile	Asp	Phe	Gln	Leu	Val	Ile	Gly	Phe	His	Gly	Gly	Leu	Tyr	
		595					600					605				
Asp	Pro	Leu	Thr	Lys	Leu	Ile	His	Phe	Gly	Glu	Arg	Asp	Tyr	Asp	Ile	
	610					615					620					
Leu	Ala	Gly	Arg	Trp	Thr	Thr	Pro	Asp	Ile	Glu	Ile	Trp	Lys	Arg	Ile	
625					630					635					640	
Gly	Lys	Asp	Pro	Ala	Pro	Phe	Asn	Leu	Tyr	Met	Phe	Arg	Asn	Asn	Asn	
				645					650					655		
Pro	Ala	Ser	Lys	Ile	His	Asp	Val	Lys	Asp	Tyr	Ile	Thr	Asp	Val	Asn	
			660					665					670			
Ser	Trp	Leu	Val	Thr	Phe	Gly	Phe	His	Leu	His	Asn	Ala	Ile	Pro	Gly	
	675						680					685				
Phe	Pro	Val	Pro	Lys	Phe	Asp	Leu	Thr	Glu	Pro	Ser	Tyr	Glu	Leu	Val	
	690					695					700					
Lys	Ser	Gln	Gln	Trp	Asp	Asp	Ile	Pro	Pro	Ile	Phe	Gly	Val	Gln	Gln	
705					710					715					720	
Gln	Val	Ala	Arg	Gln	Ala	Lys	Ala	Phe	Leu	Ser	Leu	Gly	Lys	Met	Ala	
				725					730					735		
Glu	Val	Gln	Val	Ser	Arg	Arg	Arg	Ala	Gly	Gly	Ala	Gln	Ser	Trp	Leu	
			740					745					750			
Trp	Phe	Ala	Thr	Val	Lys	Ser	Leu	Ile	Gly	Lys	Gly	Val	Met	Leu	Ala	
		755					760					765				
Val	Ser	Gln	Gly	Arg	Val	Gln	Thr	Asn	Val	Leu	Asn	Ile	Ala	Asn	Glu	
	770					775					780					
Asp	Cys	Ile	Lys	Val	Ala	Ala	Val	Leu	Asn	Asn	Ala	Phe	Tyr	Leu	Glu	
785					790					795					800	
Asn	Leu	His	Phe	Thr	Ile	Glu	Gly	Lys	Asp	Thr	His	Tyr	Phe	Ile	Lys	
				805					810					815		
Thr	Thr	Thr	Pro	Glu	Ser	Asp	Leu	Gly	Thr	Leu	Arg	Leu	Thr	Ser	Gly	
			820					825					830			
Arg	Lys	Ala	Leu	Glu	Asn	Gly	Ile	Asn	Val	Thr	Val	Ser	Gln	Ser	Thr	
		835					840					845				
Thr	Val	Val	Asn	Gly	Arg	Thr	Arg	Arg	Phe	Ala	Asp	Val	Glu	Met	Gln	
	850					855					860					
Phe	Gly	Ala	Leu	Ala	Leu	His	Val	Arg	Tyr	Gly	Met	Thr	Leu	Asp	Glu	
865					870					875					880	

Glu Lys Ala Arg Ile Leu Glu Gln Ala Arg Gln Arg Ala Leu Ala Arg  
                             885                            890                            895  
 Ala Trp Ala Arg Glu Gln Gln Arg Val Arg Asp Gly Glu Glu Gly Ala  
                             900                            905                            910  
 Arg Leu Trp Thr Glu Gly Glu Lys Arg Gln Leu Leu Ser Ala Gly Lys  
                             915                            920                            925  
 Val Gln Gly Tyr Asp Gly Tyr Tyr Val Leu Ser Val Glu Gln Tyr Pro  
                             930                            935                            940  
 Glu Leu Ala Asp Ser Ala Asn Asn Ile Gln Phe Leu Arg Gln Ser Glu  
 945                            950                            955                            960  
 Ile Gly Arg Arg

<210> 56  
 <211> 140  
 <212> PRT  
 <213> Homo sapiens

<400> 56  
 Thr Ser Cys Cys Gly Phe Pro Thr Cys Ser Thr Leu Gly Thr Cys Gly  
   1                            5                            10                            15  
 Ser Ser Cys Cys Gln Pro Pro Ser Cys Cys Gln Pro Ser Cys Cys Gln  
                             20                            25                            30  
 Pro Val Cys Ser Gln Thr Thr Cys Cys Arg Pro Thr Cys Phe Gln Ser  
                             35                            40                            45  
 Ser Cys Cys Arg Pro Ser Cys Cys Gln Thr Ser Cys Cys Gln Pro Thr  
                             50                            55                            60  
 Cys Cys Gln Ser Ser Ser Cys Gln Thr Gly Cys Gly Ile Gly Ser Cys  
   65                            70                            75                            80  
 Arg Thr Arg Trp Cys Arg Pro Asp Cys Arg Val Glu Gly Thr Cys Leu  
                             85                            90                            95  
 Pro Pro Cys Cys Val Val Ser Cys Thr Pro Pro Thr Cys Cys Gln Pro  
                             100                            105                            110  
 Val Ser Ala Gln Ala Ser Cys Cys Arg Pro Ser Tyr Cys Gly Gln Ser  
                             115                            120                            125  
 Cys Cys Arg Pro Ala Cys Cys Cys Phe Pro Cys Thr  
   130                            135                            140

<210> 57  
 <211> 963  
 <212> PRT  
 <213> Homo sapiens

<400> 57

Leu	Cys	Ser	His	Leu	Trp	Gln	Pro	Gly	Leu	Gly	Ser	Cys	Trp	Ser	Glu
1				5					10					15	
Gly	Phe	Pro	Glu	Ala	Gly	Ser	Thr	His	Ser	Arg	Leu	Cys	Leu	Leu	Leu
			20					25					30		
Cys	Trp	Thr	Leu	Ile	Glu	Ala	Val	Gly	Ser	Arg	Ala	Lys	Lys	Glu	Ala
		35					40					45			
Ala	Ala	Glu	Glu	Ala	Lys	Val	Gly	Trp	Gly	Cys	Pro	Ala	Leu	Arg	Pro
	50					55					60				
Glu	Val	Pro	Leu	Thr	Leu	Arg	Ala	Arg	Ala	Ile	Ser	Leu	Met	Ala	Ser
65					70					75					80
Ser	Gly	Arg	Lys	Leu	Trp	Leu	Arg	Tyr	Pro	Ser	Phe	Leu	Pro	Ala	Ala
				85					90					95	
Trp	Ile	Cys	Leu	Leu	Pro	Gly	Trp	Glu	Arg	Leu	Gly	Arg	Pro	Arg	Trp
			100					105					110		
Gly	Cys	Gln	Gly	Gln	Arg	Leu	Phe	Gln	Lys	Cys	Pro	Leu	Leu	Pro	Ile
		115					120					125			
Arg	Gly	Phe	Gly	Trp	His	Leu	Leu	Val	Ala	Trp	Gly	Ala	Gly	Ser	Arg
	130					135					140				
Gly	Ala	Arg	Leu	Arg	Ala	Val	Glu	Pro	Gln	Gly	Ser	Cys	Pro	Ser	Ala
145					150					155					160
Ala	Met	Leu	Thr	Pro	Ala	Glu	Leu	Ala	Thr	Val	Val	Arg	Arg	Phe	Ser
				165					170					175	
Gln	Thr	Gly	Ile	Gln	Asp	Phe	Leu	Thr	Leu	Thr	Leu	Thr	Glu	Pro	Thr
			180					185					190		
Gly	Leu	Leu	Tyr	Val	Gly	Ala	Arg	Glu	Ala	Leu	Phe	Ala	Phe	Ser	Met
		195					200					205			
Glu	Ala	Leu	Glu	Leu	Gln	Gly	Ala	Ile	Ser	Trp	Glu	Ala	Pro	Val	Glu
	210					215					220				
Lys	Lys	Thr	Glu	Cys	Ile	Gln	Lys	Gly	Lys	Asn	Asn	Gln	Thr	Glu	Cys
225					230					235				240	
Phe	Asn	Phe	Ile	Arg	Phe	Leu	Gln	Pro	Tyr	Asn	Ala	Ser	His	Leu	Tyr
				245					250					255	
Val	Cys	Gly	Thr	Tyr	Ala	Phe	Gln	Pro	Lys	Cys	Thr	Tyr	Val	Asn	Met
			260					265					270		
Leu	Thr	Phe	Thr	Leu	Glu	His	Gly	Glu	Phe	Glu	Asp	Gly	Lys	Gly	Lys
		275					280					285			
Cys	Pro	Tyr	Asp	Pro	Ala	Lys	Gly	His	Ala	Gly	Leu	Leu	Val	Asp	Gly

290	295	300
Glu Leu Tyr Ser Ala Thr Leu Asn Asn Phe Leu Gly Thr Glu Pro Ile 305 310 315 320		
Ile Leu Arg Asn Met Gly Pro His His Ser Met Lys Thr Glu Tyr Leu 325 330 335		
Ala Phe Trp Leu Asn Glu Pro His Phe Val Gly Ser Ala Tyr Val Pro 340 345 350		
Glu Ser Val Gly Ser Phe Thr Gly Asp Asp Asp Lys Val Tyr Phe Phe 355 360 365		
Phe Arg Glu Arg Ala Val Glu Ser Asp Cys Tyr Ala Glu Gln Val Val 370 375 380		
Ala Arg Val Ala Arg Val Cys Lys Gly Asp Met Gly Gly Ala Arg Thr 385 390 395 400		
Leu Gln Arg Lys Trp Thr Thr Phe Leu Lys Ala Arg Leu Ala Cys Ser 405 410 415		
Ala Pro Asn Trp Gln Leu Tyr Phe Asn Gln Leu Gln Ala Met His Thr 420 425 430		
Leu Gln Asp Thr Ser Trp His Asn Thr Thr Phe Phe Gly Val Phe Gln 435 440 445		
Ala Gln Trp Gly Asp Met Tyr Leu Ser Ala Ile Cys Glu Tyr Gln Leu 450 455 460		
Glu Glu Ile Gln Arg Val Phe Glu Gly Pro Tyr Lys Glu Tyr His Glu 465 470 475 480		
Glu Ala Gln Lys Trp Asp Arg Tyr Thr Asp Pro Val Pro Ser Pro Arg 485 490 495		
Pro Gly Ser Cys Ile Asn Asn Trp His Arg Arg His Gly Tyr Thr Ser 500 505 510		
Ser Leu Glu Leu Pro Asp Asn Ile Leu Asn Phe Val Lys Lys His Pro 515 520 525		
Leu Met Glu Glu Gln Val Gly Pro Arg Trp Ser Arg Pro Leu Leu Val 530 535 540		
Lys Lys Gly Thr Asn Phe Thr His Leu Val Ala Asp Arg Val Thr Gly 545 550 555 560		
Leu Asp Gly Ala Thr Tyr Thr Val Leu Phe Ile Gly Thr Gly Asp Gly 565 570 575		
Trp Leu Leu Lys Ala Val Ser Leu Gly Pro Trp Val His Leu Ile Glu 580 585 590		
Glu Leu Gln Leu Phe Asp Gln Glu Pro Met Arg Ser Leu Val Leu Ser		

595					600					605					
Gln	Ser	Lys	Lys	Leu	Leu	Phe	Ala	Gly	Ser	Arg	Ser	Gln	Leu	Val	Gln
610					615					620					
Leu	Pro	Val	Ala	Asp	Cys	Met	Lys	Tyr	Arg	Ser	Cys	Ala	Asp	Cys	Val
625					630					635					640
Leu	Ala	Arg	Asp	Pro	Tyr	Cys	Ala	Trp	Ser	Val	Asn	Thr	Ser	Arg	Cys
				645					650					655	
Val	Ala	Val	Gly	Gly	His	Ser	Gly	Ser	Leu	Leu	Ile	Gln	His	Val	Met
			660					665					670		
Thr	Ser	Asp	Thr	Ser	Gly	Ile	Cys	Asn	Leu	Arg	Gly	Ser	Lys	Lys	Val
			675				680					685			
Arg	Pro	Thr	Pro	Lys	Asn	Ile	Thr	Val	Val	Ala	Gly	Thr	Asp	Leu	Val
	690					695					700				
Leu	Pro	Cys	His	Leu	Ser	Ser	Asn	Leu	Ala	His	Ala	Arg	Trp	Thr	Phe
705					710					715					720
Gly	Gly	Arg	Asp	Leu	Pro	Ala	Glu	Gln	Pro	Gly	Ser	Phe	Leu	Tyr	Asp
				725					730					735	
Ala	Arg	Leu	Gln	Ala	Leu	Val	Val	Met	Ala	Ala	Gln	Pro	Arg	His	Ala
			740					745					750		
Gly	Ala	Tyr	His	Cys	Phe	Ser	Glu	Glu	Gln	Gly	Ala	Arg	Leu	Ala	Ala
		755					760					765			
Glu	Gly	Tyr	Leu	Val	Ala	Val	Val	Ala	Gly	Pro	Ser	Val	Thr	Leu	Glu
	770					775					780				
Ala	Arg	Ala	Pro	Leu	Glu	Asn	Leu	Gly	Leu	Val	Trp	Leu	Ala	Val	Val
785					790					795					800
Ala	Leu	Gly	Ala	Val	Cys	Leu	Val	Leu	Leu	Leu	Leu	Val	Leu	Ser	Leu
				805					810					815	
Arg	Arg	Arg	Leu	Arg	Glu	Glu	Leu	Glu	Lys	Gly	Ala	Lys	Ala	Thr	Glu
			820					825					830		
Arg	Thr	Leu	Val	Tyr	Pro	Leu	Glu	Leu	Pro	Lys	Glu	Pro	Thr	Ser	Pro
		835					840					845			
Pro	Phe	Arg	Pro	Cys	Pro	Glu	Pro	Asp	Glu	Lys	Leu	Trp	Asp	Pro	Val
	850					855					860				
Gly	Tyr	Tyr	Tyr	Ser	Asp	Gly	Ser	Leu	Lys	Ile	Val	Pro	Gly	His	Ala
865					870					875					880
Arg	Cys	Gln	Pro	Gly	Gly	Gly	Pro	Pro	Ser	Pro	Pro	Pro	Gly	Ile	Pro
				885					890					895	
Gly	Gln	Pro	Leu	Pro	Ser	Pro	Thr	Arg	Leu	His	Leu	Gly	Gly	Gly	Arg

900					905					910					
Asn	Ser	Asn	Ala	Asn	Gly	Tyr	Val	Arg	Leu	Gln	Leu	Gly	Gly	Glu	Asp
		915					920					925			
Arg	Gly	Gly	Leu	Gly	His	Pro	Leu	Pro	Glu	Leu	Ala	Asp	Glu	Leu	Arg
	930					935					940				
Arg	Lys	Leu	Gln	Gln	Arg	Gln	Pro	Leu	Pro	Asp	Ser	Asn	Pro	Glu	Glu
945					950					955					960
Ser	Ser	Val													

<210> 58  
 <211> 834  
 <212> PRT  
 <213> Mus musculus

<400> 58															
Met	Ala	Pro	His	Trp	Ala	Val	Trp	Leu	Leu	Ala	Ala	Gly	Leu	Trp	Gly
1				5					10					15	
Leu	Gly	Ile	Gly	Ala	Glu	Met	Trp	Trp	Asn	Leu	Val	Pro	Arg	Lys	Thr
			20					25					30		
Val	Ser	Ser	Gly	Glu	Leu	Val	Thr	Val	Val	Arg	Arg	Phe	Ser	Gln	Thr
		35					40					45			
Gly	Ile	Gln	Asp	Phe	Leu	Thr	Leu	Thr	Leu	Thr	Glu	His	Ser	Gly	Leu
	50					55					60				
Leu	Tyr	Val	Gly	Ala	Arg	Glu	Ala	Leu	Phe	Ala	Phe	Ser	Val	Glu	Ala
	65				70					75					80
Leu	Glu	Leu	Gln	Gly	Ala	Ile	Ser	Trp	Glu	Ala	Pro	Ala	Glu	Lys	Lys
			85						90					95	
Ile	Glu	Cys	Thr	Gln	Lys	Gly	Lys	Ser	Asn	Gln	Thr	Glu	Cys	Phe	Asn
			100					105					110		
Phe	Ile	Arg	Phe	Leu	Gln	Pro	Tyr	Asn	Ser	Ser	His	Leu	Tyr	Val	Cys
		115					120					125			
Gly	Thr	Tyr	Ala	Phe	Gln	Pro	Lys	Cys	Thr	Tyr	Ile	Asn	Met	Leu	Thr
	130					135					140				
Phe	Thr	Leu	Asp	Arg	Ala	Glu	Phe	Glu	Asp	Gly	Lys	Gly	Lys	Cys	Pro
	145				150					155					160
Tyr	Asp	Pro	Ala	Lys	Gly	His	Thr	Gly	Leu	Leu	Val	Asp	Gly	Glu	Leu
				165				170						175	
Tyr	Ser	Ala	Thr	Leu	Asn	Asn	Phe	Leu	Gly	Thr	Glu	Pro	Val	Ile	Leu
			180					185					190		

Arg	Tyr	Met	Gly	Thr	His	His	Ser	Ile	Lys	Thr	Glu	Tyr	Leu	Ala	Phe		
		195					200					205					
Trp	Leu	Asn	Glu	Pro	His	Phe	Val	Gly	Ser	Ala	Phe	Val	Pro	Glu	Ser		
	210					215					220						
Val	Gly	Ser	Phe	Thr	Gly	Asp	Asp	Asp	Lys	Ile	Tyr	Phe	Phe	Phe	Ser		
225					230					235					240		
Glu	Arg	Ala	Val	Glu	Tyr	Asp	Cys	Tyr	Ser	Glu	Gln	Val	Val	Ala	Arg		
				245					250					255			
Val	Ala	Arg	Val	Cys	Lys	Gly	Asp	Met	Gly	Gly	Ala	Arg	Thr	Leu	Gln		
			260					265					270				
Lys	Lys	Trp	Thr	Thr	Phe	Leu	Lys	Ala	Arg	Leu	Val	Cys	Ser	Ala	Pro		
		275					280					285					
Asp	Trp	Lys	Val	Tyr	Phe	Asn	Gln	Leu	Lys	Ala	Val	His	Thr	Leu	Arg		
	290					295						300					
Gly	Ala	Ser	Trp	His	Asn	Thr	Thr	Phe	Phe	Gly	Val	Phe	Gln	Ala	Arg		
305					310					315					320		
Trp	Gly	Asp	Met	Asp	Leu	Ser	Ala	Val	Cys	Glu	Tyr	Gln	Leu	Glu	Gln		
				325					330					335			
Ile	Gln	Gln	Val	Phe	Glu	Gly	Pro	Tyr	Lys	Glu	Tyr	Ser	Glu	Gln	Ala		
			340					345					350				
Gln	Lys	Trp	Ala	Arg	Tyr	Thr	Asp	Pro	Val	Pro	Ser	Pro	Arg	Pro	Gly		
		355					360					365					
Ser	Cys	Ile	Asn	Asn	Trp	His	Arg	Asp	Asn	Gly	Tyr	Thr	Ser	Ser	Leu		
	370					375					380						
Glu	Leu	Pro	Asp	Asn	Thr	Leu	Asn	Phe	Ile	Lys	Lys	His	Pro	Leu	Met		
385					390					395					400		
Glu	Asp	Gln	Val	Lys	Pro	Arg	Leu	Gly	Arg	Pro	Leu	Leu	Val	Lys	Lys		
				405					410					415			
Asn	Thr	Asn	Phe	Thr	His	Val	Val	Ala	Asp	Arg	Val	Pro	Gly	Leu	Asp		
			420					425					430				
Gly	Ala	Thr	Tyr	Thr	Val	Leu	Phe	Ile	Gly	Thr	Gly	Asp	Gly	Trp	Leu		
		435					440					445					
Leu	Lys	Ala	Val	Ser	Leu	Gly	Pro	Trp	Ile	His	Met	Val	Glu	Glu	Leu		
	450					455					460						
Gln	Val	Phe	Asp	Gln	Glu	Pro	Val	Glu	Ser	Leu	Val	Leu	Ser	Gln	Ser		
465					470					475					480		
Lys	Lys	Val	Leu	Phe	Ala	Gly	Ser	Arg	Ser	Gln	Leu	Val	Gln	Leu	Ser		
				485					490					495			

Leu Ala Asp Cys Thr Lys Tyr Arg Phe Cys Val Asp Cys Val Leu Ala  
 500 505 510  
 Arg Asp Pro Tyr Cys Ala Trp Asn Val Asn Thr Ser Arg Cys Val Ala  
 515 520 525  
 Thr Thr Ser Gly Arg Ser Gly Ser Phe Leu Val Gln His Val Ala Asn  
 530 535 540  
 Leu Asp Thr Ser Lys Met Cys Asn Gln Tyr Gly Ile Lys Lys Val Arg  
 545 550 555 560  
 Ser Ile Pro Lys Asn Ile Thr Val Val Ser Gly Thr Asp Leu Val Leu  
 565 570 575  
 Pro Cys His Leu Ser Ser Asn Leu Ala His Ala His Trp Thr Phe Gly  
 580 585 590  
 Ser Gln Asp Leu Pro Ala Glu Gln Pro Gly Ser Phe Leu Tyr Asp Thr  
 595 600 605  
 Gly Leu Gln Ala Leu Val Val Met Ala Ala Gln Ser Arg His Ser Gly  
 610 615 620  
 Pro Tyr Arg Cys Tyr Ser Glu Glu Gln Gly Thr Arg Leu Ala Ala Glu  
 625 630 635 640  
 Ser Tyr Leu Val Ala Val Val Ala Gly Ser Ser Val Thr Leu Glu Ala  
 645 650 655  
 Arg Ala Pro Leu Glu Asn Leu Gly Leu Val Trp Leu Ala Val Val Ala  
 660 665 670  
 Leu Gly Ala Val Cys Leu Val Leu Leu Leu Val Leu Ser Leu Arg  
 675 680 685  
 Arg Arg Leu Arg Glu Glu Leu Glu Lys Gly Ala Lys Ala Ser Glu Arg  
 690 695 700  
 Thr Leu Val Tyr Pro Leu Glu Leu Pro Lys Glu Pro Ala Ser Pro Pro  
 705 710 715 720  
 Phe Arg Pro Gly Pro Glu Thr Asp Glu Lys Leu Trp Asp Pro Val Gly  
 725 730 735  
 Tyr Tyr Tyr Ser Asp Gly Ser Leu Lys Ile Val Pro Gly His Ala Arg  
 740 745 750  
 Cys Gln Pro Gly Gly Gly Pro Pro Ser Pro Pro Pro Gly Ile Pro Gly  
 755 760 765  
 Gln Pro Leu Pro Ser Pro Thr Arg Leu His Leu Gly Gly Gly Arg Asn  
 770 775 780  
 Ser Asn Ala Asn Gly Tyr Val Arg Leu Gln Leu Gly Gly Glu Asp Arg  
 785 790 795 800



Gly Gly Ser Gly His Pro Leu Pro Glu Leu Ala Asp Glu Leu Arg Arg  
805 810 815

Lys Leu Gln Gln Arg Gln Pro Leu Pro Asp Ser Asn Pro Glu Glu Ser  
820 825 830

Ser Val

<210> 59

<211> 510

<212> PRT

<213> Homo sapiens

<400> 59

Met Tyr Leu Ser Ala Ile Cys Glu Tyr Gln Leu Glu Glu Ile Gln Arg  
1 5 10 15

Val Phe Glu Gly Pro Tyr Lys Glu Tyr His Glu Glu Ala Gln Lys Trp  
20 25 30

Asp Arg Tyr Thr Asp Pro Val Pro Ser Pro Arg Pro Gly Ser Cys Ile  
35 40 45

Asn Asn Trp His Arg Arg His Gly Tyr Thr Ser Ser Leu Glu Leu Pro  
50 55 60

Asp Asn Ile Leu Asn Phe Val Lys Lys His Pro Leu Met Glu Glu Gln  
65 70 75 80

Val Gly Pro Arg Trp Ser Arg Pro Leu Leu Val Lys Lys Gly Thr Asn  
85 90 95

Phe Thr His Leu Val Ala Asp Arg Val Thr Gly Leu Asp Gly Ala Thr  
100 105 110

Tyr Thr Val Leu Phe Ile Gly Thr Gly Asp Gly Trp Leu Leu Lys Ala  
115 120 125

Val Ser Leu Gly Pro Trp Val His Leu Ile Glu Glu Leu Gln Leu Phe  
130 135 140

Asp Gln Glu Pro Met Arg Ser Leu Val Leu Ser Gln Ser Lys Lys Leu  
145 150 155 160

Leu Phe Ala Gly Ser Arg Ser Gln Leu Val Gln Leu Pro Val Ala Asp  
165 170 175

Cys Met Lys Tyr Arg Ser Cys Ala Asp Cys Val Leu Ala Arg Asp Pro  
180 185 190

Tyr Cys Ala Trp Ser Val Asn Thr Ser Arg Cys Val Ala Val Gly Gly  
195 200 205

His Ser Gly Ser Leu Leu Ile Gln His Val Met Thr Ser Asp Thr Ser  
210 215 220

Gly Ile Cys Asn Leu Arg Gly Ser Lys Lys Val Arg Pro Thr Pro Lys  
 225 230 235 240  
 Asn Ile Thr Val Val Ala Gly Thr Asp Leu Val Leu Pro Cys His Leu  
 245 250 255  
 Ser Ser Asn Leu Ala His Ala Arg Trp Thr Phe Gly Gly Arg Asp Leu  
 260 265 270  
 Pro Ala Glu Gln Pro Gly Ser Phe Leu Tyr Asp Ala Arg Leu Gln Ala  
 275 280 285  
 Leu Val Val Met Ala Ala Gln Pro Arg His Ala Gly Ala Tyr His Cys  
 290 295 300  
 Phe Ser Glu Glu Gln Gly Ala Arg Leu Ala Ala Glu Gly Tyr Leu Val  
 305 310 315 320  
 Ala Val Val Ala Gly Pro Ser Val Thr Leu Glu Ala Arg Ala Pro Leu  
 325 330 335  
 Glu Asn Leu Gly Leu Val Trp Leu Ala Val Val Ala Leu Gly Ala Val  
 340 345 350  
 Cys Leu Val Leu Leu Leu Leu Val Leu Ser Leu Arg Arg Arg Leu Arg  
 355 360 365  
 Glu Glu Leu Glu Lys Gly Ala Lys Ala Thr Glu Arg Thr Leu Val Tyr  
 370 375 380  
 Pro Leu Glu Leu Pro Lys Glu Pro Thr Ser Pro Pro Phe Arg Pro Cys  
 385 390 395 400  
 Pro Glu Pro Asp Glu Lys Leu Trp Asp Pro Val Gly Tyr Tyr Tyr Ser  
 405 410 415  
 Asp Gly Ser Leu Lys Ile Val Pro Gly His Ala Arg Cys Gln Pro Gly  
 420 425 430  
 Gly Gly Pro Pro Ser Pro Pro Pro Gly Ile Pro Gly Gln Pro Leu Pro  
 435 440 445  
 Ser Pro Thr Arg Leu His Leu Gly Gly Gly Arg Asn Ser Asn Ala Asn  
 450 455 460  
 Gly Tyr Val Arg Leu Gln Leu Gly Gly Glu Asp Arg Gly Gly Leu Gly  
 465 470 475 480  
 His Pro Leu Pro Glu Leu Ala Asp Glu Leu Arg Arg Lys Leu Gln Gln  
 485 490 495  
 Arg Gln Pro Leu Pro Asp Ser Asn Pro Glu Glu Ser Ser Val  
 500 505 510

<210> 60

<211> 510

<212> PRT

<213> Homo sapiens

<400> 60

Met	Tyr	Leu	Ser	Ala	Ile	Cys	Glu	Tyr	Gln	Leu	Glu	Glu	Ile	Gln	Arg	
1				5					10					15		
Val	Phe	Glu	Gly	Pro	Tyr	Lys	Glu	Tyr	His	Glu	Glu	Ala	Gln	Lys	Trp	
			20					25					30			
Asp	Arg	Tyr	Thr	Asp	Pro	Val	Pro	Ser	Pro	Arg	Pro	Gly	Ser	Cys	Ile	
		35					40					45				
Asn	Asn	Trp	His	Arg	Arg	His	Gly	Tyr	Thr	Ser	Ser	Leu	Glu	Leu	Pro	
	50					55					60					
Asp	Asn	Ile	Leu	Asn	Phe	Val	Lys	Lys	His	Pro	Leu	Met	Glu	Glu	Gln	
65					70				75						80	
Val	Gly	Pro	Arg	Trp	Ser	Arg	Pro	Leu	Leu	Val	Lys	Lys	Gly	Thr	Asn	
				85				90						95		
Phe	Thr	His	Leu	Val	Ala	Asp	Arg	Val	Thr	Gly	Leu	Asp	Gly	Ala	Thr	
			100					105					110			
Tyr	Thr	Val	Leu	Phe	Ile	Asp	Thr	Gly	Asp	Gly	Trp	Leu	Leu	Lys	Ala	
		115					120					125				
Val	Ser	Leu	Gly	Pro	Trp	Val	His	Leu	Ile	Glu	Glu	Leu	Gln	Leu	Phe	
	130					135					140					
Asp	Gln	Glu	Pro	Met	Arg	Ser	Leu	Val	Leu	Ser	Gln	Ser	Lys	Lys	Leu	
145					150					155					160	
Leu	Phe	Ala	Gly	Ser	Arg	Ser	Gln	Leu	Val	Gln	Leu	Pro	Val	Ala	Asp	
				165				170						175		
Cys	Met	Lys	Tyr	Arg	Ser	Cys	Ala	Asp	Cys	Val	Leu	Ala	Arg	Asp	Pro	
			180					185					190			
Tyr	Cys	Ala	Trp	Ser	Val	Asn	Thr	Ser	Arg	Cys	Val	Ala	Val	Gly	Gly	
		195					200					205				
His	Ser	Gly	Ser	Leu	Leu	Ile	Gln	His	Val	Met	Thr	Ser	Asp	Thr	Ser	
	210					215					220					
Gly	Ile	Cys	Asn	Leu	Arg	Gly	Ser	Lys	Lys	Val	Arg	Pro	Thr	Pro	Lys	
225					230					235					240	
Asn	Ile	Thr	Val	Val	Ala	Gly	Thr	Asp	Leu	Val	Leu	Pro	Cys	His	Leu	
			245						250					255		
Ser	Ser	Asn	Leu	Ala	His	Ala	Arg	Trp	Thr	Phe	Gly	Gly	Arg	Asp	Leu	
			260					265					270			
Pro	Ala	Glu	Gln	Pro	Gly	Ser	Phe	Leu	Tyr	Asp	Ala	Arg	Leu	Gln	Ala	

275					280					285					
Leu	Val	Val	Met	Ala	Ala	Gln	Pro	Arg	His	Ala	Gly	Ala	Tyr	His	Cys
290						295					300				
Phe	Ser	Glu	Glu	Gln	Gly	Ala	Arg	Leu	Ala	Ala	Glu	Gly	Tyr	Leu	Val
305					310					315					320
Ala	Val	Val	Ala	Gly	Pro	Ser	Val	Thr	Leu	Glu	Ala	Arg	Ala	Pro	Leu
				325					330					335	
Glu	Asn	Leu	Gly	Leu	Val	Trp	Leu	Ala	Val	Val	Ala	Leu	Gly	Ala	Val
			340					345					350		
Cys	Leu	Val	Leu	Leu	Leu	Leu	Val	Leu	Ser	Leu	Arg	Arg	Arg	Leu	Arg
		355					360					365			
Glu	Glu	Leu	Glu	Lys	Gly	Ala	Lys	Ala	Thr	Glu	Arg	Thr	Leu	Val	Tyr
		370				375					380				
Pro	Leu	Glu	Leu	Pro	Lys	Glu	Pro	Thr	Ser	Pro	Pro	Phe	Arg	Pro	Cys
385						390					395				400
Pro	Glu	Pro	Asp	Glu	Lys	Leu	Trp	Asp	Pro	Val	Gly	Tyr	Tyr	Tyr	Ser
				405					410					415	
Asp	Gly	Ser	Leu	Lys	Ile	Val	Pro	Gly	His	Ala	Arg	Cys	Gln	Pro	Gly
			420					425					430		
Gly	Gly	Pro	Pro	Ser	Pro	Pro	Pro	Gly	Ile	Pro	Gly	Gln	Pro	Leu	Pro
		435					440					445			
Ser	Pro	Thr	Arg	Leu	His	Leu	Gly	Gly	Gly	Arg	Asn	Ser	Asn	Ala	Asn
		450				455					460				
Gly	Tyr	Val	Arg	Leu	Gln	Leu	Gly	Gly	Glu	Asp	Arg	Gly	Gly	Leu	Gly
465					470					475					480
His	Pro	Leu	Pro	Glu	Leu	Ala	Asp	Glu	Leu	Arg	Arg	Lys	Leu	Gln	Gln
				485				490						495	
Arg	Gln	Pro	Leu	Pro	Asp	Ser	Asn	Pro	Glu	Glu	Ser	Ser	Val		
			500					505					510		

<210> 61  
 <211> 861  
 <212> PRT  
 <213> Mus musculus

<400> 61  
 Met Arg Met Cys Ala Pro Val Arg Gly Leu Phe Leu Ala Leu Val Val  
 1 5 10 15  
 Val Leu Arg Thr Ala Val Ala Phe Ala Pro Val Pro Arg Leu Thr Trp  
 20 25 30



Phe	Ser	Arg	Gly	Lys	Tyr	Met	Gln	Ser	Ala	Thr	Val	Glu	Gln	Ser	His
			340					345					350		
Thr	Lys	Trp	Val	Arg	Tyr	Asn	Gly	Pro	Val	Pro	Thr	Pro	Arg	Pro	Gly
			355				360					365			
Ala	Cys	Ile	Asp	Ser	Glu	Ala	Arg	Ala	Ala	Asn	Tyr	Thr	Ser	Ser	Leu
		370				375					380				
Asn	Leu	Pro	Asp	Lys	Thr	Leu	Gln	Phe	Val	Lys	Asp	His	Pro	Leu	Met
385					390					395					400
Asp	Asp	Ser	Val	Thr	Pro	Ile	Asp	Asn	Arg	Pro	Lys	Leu	Ile	Lys	Lys
				405					410					415	
Asp	Val	Asn	Tyr	Thr	Gln	Ile	Val	Val	Asp	Arg	Thr	Gln	Ala	Leu	Asp
			420					425					430		
Gly	Thr	Phe	Tyr	Asp	Val	Met	Phe	Ile	Ser	Thr	Asp	Arg	Gly	Ala	Leu
		435					440					445			
His	Lys	Ala	Val	Ile	Leu	Thr	Lys	Glu	Val	His	Val	Ile	Glu	Glu	Thr
	450					455					460				
Gln	Leu	Phe	Arg	Asp	Phe	Glu	Pro	Val	Leu	Thr	Leu	Leu	Leu	Ser	Ser
465					470					475					480
Lys	Lys	Gly	Arg	Lys	Phe	Val	Tyr	Ala	Gly	Ser	Asn	Ser	Gly	Val	Val
				485					490					495	
Gln	Ala	Pro	Leu	Ala	Phe	Cys	Glu	Lys	His	Gly	Ser	Cys	Glu	Asp	Cys
			500					505					510		
Val	Leu	Ala	Arg	Asp	Pro	Tyr	Cys	Ala	Trp	Ser	Pro	Ala	Ile	Lys	Ala
		515					520					525			
Cys	Val	Thr	Leu	His	Gln	Glu	Glu	Ala	Ser	Ser	Arg	Gly	Trp	Ile	Gln
	530					535					540				
Asp	Met	Ser	Gly	Asp	Thr	Ser	Ser	Cys	Leu	Asp	Lys	Ser	Lys	Glu	Ser
545					550					555					560
Phe	Asn	Gln	His	Phe	Phe	Lys	His	Gly	Gly	Thr	Ala	Glu	Leu	Lys	Cys
				565					570					575	
Phe	Gln	Lys	Ser	Asn	Leu	Ala	Arg	Val	Val	Trp	Lys	Phe	Gln	Asn	Gly
			580					585					590		
Glu	Leu	Lys	Ala	Ala	Ser	Pro	Lys	Tyr	Gly	Phe	Val	Gly	Arg	Lys	His
		595					600					605			
Leu	Leu	Ile	Phe	Asn	Leu	Ser	Asp	Gly	Asp	Ser	Gly	Val	Tyr	Gln	Cys
	610					615					620				
Leu	Ser	Glu	Glu	Arg	Val	Arg	Asn	Lys	Thr	Val	Ser	Gln	Leu	Leu	Ala
625					630					635					640

Lys His Val Leu Glu Val Lys Met Val Pro Arg Thr Pro Pro Ser Pro  
 645 650 655  
 Thr Ser Glu Asp Val Gln Thr Glu Gly Ser Lys Ile Thr Ser Lys Met  
 660 665 670  
 Pro Val Gly Ser Thr Gln Gly Ser Ser Pro Pro Thr Pro Ala Leu Trp  
 675 680 685  
 Ala Thr Ser Pro Arg Ala Ala Thr Leu Pro Pro Lys Ser Ser Ser Gly  
 690 695 700  
 Thr Ser Cys Glu Pro Lys Met Val Ile Asn Thr Val Pro Gln Leu His  
 705 710 715 720  
 Ser Glu Lys Thr Val Tyr Leu Lys Ser Ser Asp Asn Arg Leu Leu Met  
 725 730 735  
 Ser Leu Leu Leu Phe Ile Phe Val Leu Phe Leu Cys Leu Phe Ser Tyr  
 740 745 750  
 Asn Cys Tyr Lys Gly Tyr Leu Pro Gly Gln Cys Leu Lys Phe Arg Ser  
 755 760 765  
 Ala Leu Leu Leu Gly Lys Lys Thr Pro Lys Ser Asp Phe Ser Asp Leu  
 770 775 780  
 Glu Gln Ser Val Lys Glu Thr Leu Val Glu Pro Gly Ser Phe Ser Gln  
 785 790 795 800  
 Gln Asn Gly Asp His Pro Lys Pro Ala Leu Asp Thr Gly Tyr Glu Thr  
 805 810 815  
 Glu Gln Asp Thr Ile Thr Ser Lys Val Pro Thr Asp Arg Glu Asp Ser  
 820 825 830  
 Gln Arg Ile Asp Glu Leu Ser Ala Arg Asp Lys Pro Phe Asp Val Lys  
 835 840 845  
 Cys Glu Leu Lys Phe Ala Asp Ser Asp Ala Asp Gly Asp  
 850 855 860

<210> 62

<211> 420

<212> PRT

<213> Homo sapiens

<400> 62

Tyr Val Gly Ala Arg Asn Arg Val Tyr Val Leu Asn Leu Glu Asp Leu  
 1 5 10 15

Ser Glu Val Leu Asn Leu Lys Thr Gly Trp Pro Gly Ser Cys Glu Thr  
 20 25 30

Cys Glu Glu Cys Asn Met Lys Gly Lys Ser Pro Leu Thr Glu Cys Thr  
 35 40 45





Thr Ser Ile Ala Val Asp Arg Val Arg Ala Gly Asp Gly Gln Ile Tyr  
 355 360 365  
 Thr Val Leu Phe Leu Gly Thr Asp Asp Gly Arg Val Leu Lys Gln Val  
 370 375 380  
 Val Leu Ser Arg Ser Ser Ser Ala Ser Tyr Leu Val Val Val Leu Glu  
 385 390 395 400  
 Glu Ser Leu Val Phe Pro Asp Gly Glu Pro Val Gln Arg Met Val Ile  
 405 410 415  
 Ser Ser Lys Asn  
 420

<210> 63  
 <211> 417  
 <212> PRT  
 <213> Homo sapiens

<400> 63  
 Tyr Val Gly Ala Arg Asn Arg Leu Tyr Val Leu Ser Leu Asn Leu Ile  
 1 5 10 15  
 Ser Glu Ala Glu Val Lys Thr Gly Pro Val Leu Ser Ser Pro Asp Cys  
 20 25 30  
 Glu Glu Cys Val Ser Lys Gly Lys Asp Pro Pro Thr Asp Cys Val Asn  
 35 40 45  
 Phe Ile Arg Leu Leu Leu Asp Tyr Asn Ala Asp His Leu Leu Val Cys  
 50 55 60  
 Gly Thr Asn Ala Phe Gln Pro Val Cys Arg Leu Ile Asn Leu Gly Asn  
 65 70 75 80  
 Leu Asp Arg Leu Glu Val Gly Arg Glu Ser Gly Arg Gly Arg Cys Pro  
 85 90 95  
 Phe Asp Pro Gln His Asn Ser Thr Ala Val Leu Val Asp Gly Glu Leu  
 100 105 110  
 Tyr Val Gly Thr Val Ala Asp Phe Ser Gly Ser Asp Pro Ala Ile Tyr  
 115 120 125  
 Arg Ser Leu Ser Val Arg Arg Leu Lys Gly Thr Ser Gly Pro Ser Leu  
 130 135 140  
 Arg Thr Val Leu Tyr Asp Ser Arg Trp Leu Asn Glu Pro Asn Phe Val  
 145 150 155 160  
 Tyr Ala Phe Glu Ser Gly Asp Phe Val Tyr Phe Phe Phe Arg Glu Thr  
 165 170 175  
 Ala Val Glu Asp Glu Asn Cys Gly Lys Ala Val Val Ser Arg Val Ala

180					185					190					
Arg	Val	Cys	Lys	Asn	Asp	Val	Gly	Gly	Pro	Arg	Ser	Leu	Ser	Lys	Lys
		195					200					205			
Trp	Thr	Ser	Phe	Leu	Lys	Ala	Arg	Leu	Glu	Cys	Ser	Val	Pro	Gly	Glu
	210					215					220				
Phe	Pro	Phe	Tyr	Phe	Asn	Glu	Leu	Gln	Ala	Ala	Phe	Leu	Leu	Pro	Ala
225					230					235					240
Gly	Ser	Glu	Ser	Asp	Asp	Val	Leu	Tyr	Gly	Val	Phe	Ser	Thr	Ser	Ser
				245					250					255	
Asn	Pro	Ile	Pro	Gly	Ser	Ala	Val	Cys	Ala	Phe	Ser	Leu	Ser	Asp	Ile
			260					265					270		
Asn	Ala	Val	Phe	Asn	Glu	Pro	Phe	Lys	Glu	Cys	Glu	Thr	Gly	Asn	Ser
		275					280					285			
Gln	Trp	Leu	Pro	Tyr	Pro	Arg	Gly	Leu	Val	Pro	Phe	Pro	Arg	Pro	Gly
	290					295					300				
Thr	Cys	Pro	Asn	Thr	Pro	Leu	Ser	Ser	Lys	Asp	Leu	Pro	Asp	Asp	Val
305					310					315					320
Leu	Asn	Phe	Ile	Lys	Thr	His	Pro	Leu	Met	Asp	Glu	Val	Val	Gln	Pro
				325					330					335	
Leu	Thr	Gly	Arg	Pro	Leu	Phe	Val	Lys	Thr	Asp	Ser	Asn	Tyr	Leu	Leu
			340					345					350		
Thr	Ser	Ile	Ala	Val	Asp	Arg	Val	Arg	Thr	Asp	Gly	Gly	Asn	Tyr	Thr
		355					360					365			
Val	Leu	Phe	Leu	Gly	Thr	Ser	Asp	Gly	Arg	Ile	Leu	Lys	Val	Val	Leu
	370					375					380				
Ser	Arg	Ser	Ser	Ser	Ser	Ser	Glu	Ser	Val	Val	Leu	Glu	Glu	Ile	Ser
385					390					395					400
Val	Phe	Asp	Pro	Gly	Ser	Pro	Val	Ser	Asp	Leu	Val	Leu	Ser	Pro	Lys
				405					410					415	

Lys

<210> 64

<211> 592

<212> PRT

<213> Mus musculus

<400> 64

Met	Leu	Lys	Arg	Leu	Lys	Lys	His	Val	Val	Ala	Trp	Lys	Met	Cys	Val
1				5					10					15	

Met	Pro	His	Ser	Arg	Lys	Met	Ser	Val	His	Met	Glu	Arg	Pro	Ser	Pro			
			20					25					30					
Cys	Gly	Ser	Trp	Leu	Val	Gly	Cys	Leu	Phe	Thr	Ile	Ala	Val	Phe	Gln			
		35					40					45						
Pro	Pro	Val	Gln	Val	Leu	Gly	Asp	Ala	Gly	Lys	Val	Tyr	Ile	Ala	Pro			
	50					55					60							
Leu	Arg	Asp	Thr	Ala	Asn	Leu	Pro	Cys	Pro	Leu	Phe	Leu	Trp	Pro	Asn			
65					70					75					80			
Met	Val	Leu	Ser	Glu	Met	Arg	Trp	Tyr	Arg	Pro	Gly	His	Leu	Pro	Arg			
				85					90					95				
Thr	Gln	Ala	Val	His	Val	Phe	Arg	Asp	Gly	Gln	Asp	Arg	Asp	Glu	Asp			
			100					105					110					
Leu	Met	Pro	Glu	Ser	Lys	Gly	Arg	Thr	Ala	Leu	Val	Arg	Asp	Ala	His			
		115					120					125						
Lys	Glu	Ser	Tyr	Ile	Leu	Gln	Ile	Ser	Asn	Val	Arg	Leu	Glu	Asp	Arg			
	130					135					140							
Gly	Leu	Tyr	Gln	Cys	Gln	Val	Trp	Val	Gly	Asn	Ser	Ser	Arg	Glu	Asp			
145					150					155					160			
Asn	Val	Thr	Leu	Gln	Val	Ala	Val	Leu	Gly	Ser	Asp	Pro	Tyr	Ile	His			
				165					170					175				
Val	Lys	Gly	Tyr	Asp	Ala	Gly	Trp	Ile	Glu	Leu	Leu	Cys	Gln	Ser	Val			
			180					185					190					
Gly	Trp	Phe	Pro	Lys	Pro	Trp	Thr	Glu	Trp	Arg	Asp	Thr	Ala	Gly	Arg			
		195					200					205						
Ala	Leu	Leu	Ser	Leu	Ser	Glu	Val	His	Ser	Leu	Asp	Glu	Asn	Gly	Leu			
	210					215					220							
Phe	Arg	Thr	Ala	Val	Ser	Ser	Arg	Ile	Arg	Asp	Asn	Ala	Leu	Gly	Asn			
225					230					235					240			
Val	Ser	Cys	Thr	Ile	His	Ile	Glu	Ala	Leu	Gly	Gln	Glu	Lys	Thr	Thr			
				245					250					255				
Ala	Met	Ile	Ile	Gly	Ala	Pro	Glu	Arg	Gly	Ser	Leu	Ser	Ser	Pro	Ala			
			260					265					270					
Val	Ala	Leu	Ser	Val	Val	Leu	Pro	Val	Leu	Gly	Leu	Leu	Ile	Leu	Leu			
		275					280					285						
Gly	Ile	Trp	Leu	Ile	Cys	Lys	Gln	Lys	Lys	Ser	Lys	Glu	Lys	Leu	Leu			
	290					295					300							
Tyr	Glu	Gln	Ala	Met	Glu	Val	Glu	Ser	Leu	Leu	Glu	Asp	His	Ala	Lys			
305					310					315					320			

Glu	Lys	Gly	Arg	Leu	His	Lys	Ala	Leu	Lys	Lys	Leu	Arg	Ser	Glu	Leu	325	330	335
Lys	Leu	Lys	Arg	Ala	Ala	Ala	Asn	Ala	Gly	Trp	Arg	Arg	Ala	Arg	Leu	340	345	350
His	Phe	Val	Ala	Val	Thr	Leu	Asp	Pro	Asp	Thr	Ala	His	Pro	Lys	Leu	355	360	365
Ile	Leu	Ser	Glu	Asp	Arg	Arg	Cys	Val	Arg	Leu	Gly	Asp	Arg	Lys	Arg	370	375	380
Pro	Val	Pro	Asp	Asn	Pro	Glu	Arg	Phe	Asp	Phe	Val	Val	Ser	Val	Pro	385	390	395
Gly	Ser	Glu	Tyr	Phe	Thr	Thr	Gly	Cys	His	Tyr	Trp	Glu	Val	Tyr	Val	405	410	415
Gly	Glu	Lys	Thr	Lys	Trp	Ile	Leu	Gly	Val	Cys	Ser	Glu	Ser	Val	Ser	420	425	430
Arg	Lys	Gly	Lys	Val	Thr	Ala	Ser	Pro	Ala	Asn	Gly	His	Trp	Leu	Val	435	440	445
Arg	Gln	Ser	Arg	Gly	Asn	Glu	Tyr	Glu	Ala	Leu	Thr	Ser	Pro	Gln	Thr	450	455	460
Ser	Phe	Arg	Leu	Lys	Glu	Ser	Pro	Lys	Cys	Val	Gly	Ile	Phe	Leu	Asp	465	470	475
Tyr	Glu	Ala	Gly	Ile	Ile	Ser	Phe	Tyr	Asn	Val	Thr	Asp	Lys	Ser	His	485	490	495
Ile	Phe	Thr	Phe	Thr	His	Ser	Phe	Ser	Ser	Pro	Leu	Arg	Pro	Phe	Phe	500	505	510
Glu	Pro	Cys	Leu	His	Asp	Glu	Gly	Lys	Asn	Thr	Ala	Pro	Leu	Ile	Ile	515	520	525
Cys	Thr	Glu	Leu	Gln	Lys	Ser	Glu	Glu	Ser	Ile	Val	Pro	Lys	Gln	Glu	530	535	540
Gly	Lys	Asp	Arg	Ala	Asn	Gly	Asp	Val	Ser	Leu	Lys	Met	Asn	Pro	Ser	545	550	555
Leu	Leu	Ser	Pro	Gln	Gly	Cys	Glu	Leu	Phe	Leu	Leu	Asn	Asp	Thr	Trp	565	570	575
Pro	Ser	Asn	Phe	Gly	Pro	Ala	Leu	Lys	Gly	Leu	Lys	Val	Pro	Ser	Leu	580	585	590

<210> 65

<211> 475

<212> PRT

<213> Homo sapiens

<400> 65

Met	Glu	Met	Ala	Ser	Ser	Ala	Gly	Ser	Trp	Leu	Ser	Gly	Cys	Leu	Ile	
1				5					10					15		
Pro	Leu	Val	Phe	Leu	Arg	Leu	Ser	Val	His	Val	Ser	Gly	His	Ala	Gly	
			20					25					30			
Asp	Ala	Gly	Lys	Phe	His	Val	Ala	Leu	Leu	Gly	Gly	Thr	Ala	Glu	Leu	
		35					40					45				
Leu	Cys	Pro	Leu	Ser	Leu	Trp	Pro	Gly	Thr	Val	Pro	Lys	Glu	Val	Arg	
	50					55					60					
Trp	Leu	Arg	Ser	Pro	Phe	Pro	Gln	Arg	Ser	Gln	Ala	Val	His	Ile	Phe	
65					70					75					80	
Arg	Asp	Gly	Lys	Asp	Gln	Asp	Glu	Asp	Leu	Met	Pro	Glu	Tyr	Lys	Gly	
			85						90					95		
Arg	Thr	Val	Leu	Val	Arg	Asp	Ala	Gln	Glu	Gly	Ser	Val	Thr	Leu	Gln	
			100					105					110			
Ile	Leu	Asp	Val	Arg	Leu	Glu	Asp	Gln	Gly	Ser	Tyr	Arg	Cys	Leu	Ile	
		115					120					125				
Gln	Val	Gly	Asn	Leu	Ser	Lys	Glu	Asp	Thr	Val	Ile	Leu	Gln	Val	Ala	
	130					135					140					
Ala	Pro	Ser	Val	Gly	Ser	Leu	Ser	Pro	Ser	Ala	Val	Ala	Leu	Ala	Val	
145					150					155					160	
Ile	Leu	Pro	Val	Leu	Val	Leu	Leu	Ile	Met	Val	Cys	Leu	Cys	Leu	Ile	
			165						170					175		
Trp	Lys	Gln	Arg	Arg	Ala	Lys	Glu	Lys	Leu	Leu	Tyr	Glu	His	Val	Thr	
			180					185					190			
Glu	Val	Asp	Asn	Leu	Leu	Ser	Asp	His	Ala	Lys	Glu	Lys	Gly	Lys	Leu	
		195					200					205				
His	Lys	Ala	Val	Lys	Lys	Leu	Arg	Ser	Glu	Leu	Lys	Leu	Lys	Arg	Ala	
	210					215					220					
Ala	Ala	Asn	Ser	Gly	Trp	Arg	Arg	Ala	Arg	Leu	His	Phe	Val	Ala	Val	
225					230					235					240	
Thr	Leu	Asp	Pro	Asp	Thr	Ala	His	Pro	Lys	Leu	Ile	Leu	Ser	Glu	Asp	
			245						250					255		
Gln	Arg	Cys	Val	Arg	Leu	Gly	Asp	Arg	Arg	Gln	Pro	Val	Pro	Asp	Asn	
			260					265					270			
Pro	Gln	Arg	Phe	Asp	Phe	Val	Val	Ser	Ile	Leu	Gly	Ser	Glu	Tyr	Phe	
		275					280					285				

Thr Thr Gly Cys His Tyr Trp Glu Val Tyr Val Gly Asp Lys Thr Lys  
 290 295 300  
 Trp Ile Leu Gly Val Cys Ser Glu Ser Val Ser Arg Lys Gly Lys Val  
 305 310 315 320  
 Thr Ala Ser Pro Ala Asn Gly His Trp Leu Leu Arg Gln Ser Arg Gly  
 325 330 335  
 Asn Glu Tyr Glu Ala Leu Thr Ser Pro Gln Thr Ser Phe Arg Leu Lys  
 340 345 350  
 Glu Pro Pro Arg Cys Val Gly Ile Phe Leu Asp Tyr Glu Ala Gly Val  
 355 360 365  
 Ile Ser Phe Tyr Asn Val Thr Asn Lys Ser His Ile Phe Thr Phe Thr  
 370 375 380  
 His Asn Phe Ser Gly Pro Leu Arg Pro Phe Phe Glu Pro Cys Leu His  
 385 390 395 400  
 Asp Gly Gly Lys Asn Thr Ala Pro Leu Val Ile Cys Ser Glu Leu His  
 405 410 415  
 Lys Ser Glu Glu Ser Ile Val Pro Arg Pro Glu Gly Lys Gly His Ala  
 420 425 430  
 Asn Gly Asp Val Ser Leu Lys Val Asn Ser Ser Leu Leu Pro Pro Lys  
 435 440 445  
 Ala Pro Glu Leu Lys Asp Ile Ile Leu Ser Leu Pro Pro Asp Leu Gly  
 450 455 460  
 Pro Ala Leu Gln Glu Leu Lys Ala Pro Ser Phe  
 465 470 475

<210> 66  
 <211> 188  
 <212> PRT  
 <213> Homo sapiens

<400> 66  
 Phe Thr Thr Gly Cys His Tyr Trp Glu Val Tyr Val Gly Asp Lys Thr  
 1 5 10 15  
 Lys Trp Ile Leu Gly Val Cys Ser Glu Ser Val Ser Arg Lys Gly Lys  
 20 25 30  
 Val Thr Ala Ser Pro Ala Asn Gly His Trp Leu Leu Arg Gln Ser Arg  
 35 40 45  
 Gly Asn Glu Tyr Glu Ala Leu Thr Ser Pro Gln Thr Ser Phe Arg Leu  
 50 55 60  
 Lys Glu Pro Pro Arg Cys Val Gly Ile Phe Leu Asp Tyr Glu Ala Gly

65	70					75					80				
Val	Ile	Ser	Phe	Tyr	Asn	Val	Thr	Asn	Lys	Ser	His	Ile	Phe	Thr	Phe
			85						90					95	
Thr	His	Asn	Phe	Ser	Gly	Pro	Leu	Arg	Pro	Phe	Phe	Glu	Pro	Cys	Leu
			100					105					110		
His	Asp	Gly	Gly	Lys	Asn	Thr	Ala	Pro	Leu	Val	Ile	Cys	Ser	Glu	Leu
		115					120					125			
His	Lys	Ser	Glu	Glu	Ser	Ile	Val	Pro	Arg	Pro	Glu	Gly	Lys	Gly	His
	130					135					140				
Ala	Asn	Gly	Asp	Val	Ser	Leu	Lys	Val	Asn	Ser	Ser	Leu	Leu	Pro	Pro
145					150					155					160
Lys	Ala	Pro	Glu	Leu	Lys	Asp	Ile	Ile	Leu	Ser	Leu	Pro	Pro	Asp	Leu
			165						170					175	
Gly	Pro	Ala	Leu	Gln	Glu	Leu	Lys	Ala	Pro	Ser	Phe				
			180					185							

<210> 67

<211> 524

<212> PRT

<213> Mus musculus

<400> 67

Met	Ala	Val	Pro	Thr	Asn	Ser	Cys	Leu	Leu	Val	Cys	Leu	Leu	Thr	Leu
1				5					10					15	
Thr	Val	Leu	Gln	Leu	Pro	Thr	Leu	Asp	Ser	Ala	Ala	Pro	Phe	Asp	Val
		20						25					30		
Thr	Ala	Pro	Gln	Glu	Pro	Val	Leu	Ala	Leu	Val	Gly	Ser	Asp	Ala	Glu
	35						40					45			
Leu	Thr	Cys	Gly	Phe	Ser	Pro	Asn	Ala	Ser	Ser	Glu	Tyr	Met	Glu	Leu
	50					55					60				
Leu	Trp	Phe	Arg	Gln	Thr	Arg	Ser	Lys	Ala	Val	Leu	Leu	Tyr	Arg	Asp
65				70					75					80	
Gly	Gln	Glu	Gln	Glu	Gly	Gln	Gln	Met	Thr	Glu	Tyr	Arg	Gly	Arg	Ala
			85						90					95	
Thr	Leu	Ala	Thr	Ala	Gly	Leu	Leu	Asp	Gly	Arg	Ala	Thr	Leu	Leu	Ile
		100						105					110		
Arg	Asp	Val	Arg	Val	Ser	Asp	Gln	Gly	Glu	Tyr	Arg	Cys	Leu	Phe	Lys
	115						120					125			
Asp	Asn	Asp	Asp	Phe	Glu	Glu	Ala	Ala	Val	Tyr	Leu	Lys	Val	Ala	Ala
	130					135					140				

Val	Gly	Ser	Asp	Pro	Gln	Ile	Ser	Met	Thr	Val	Gln	Glu	Asn	Gly	Glu	145	150	155	160
Met	Glu	Leu	Glu	Cys	Thr	Ser	Ser	Gly	Trp	Tyr	Pro	Glu	Pro	Gln	Val	165	170		175
Gln	Trp	Arg	Thr	Gly	Asn	Arg	Glu	Met	Leu	Pro	Ser	Thr	Ser	Glu	Ser	180	185		190
Lys	Lys	His	Asn	Glu	Glu	Gly	Leu	Phe	Thr	Val	Ala	Val	Ser	Met	Met	195	200		205
Ile	Arg	Asp	Ser	Ser	Ile	Lys	Asn	Met	Ser	Cys	Cys	Ile	Gln	Asn	Ile	210	215		220
Leu	Leu	Gly	Gln	Gly	Lys	Glu	Val	Glu	Ile	Ser	Leu	Pro	Ala	Pro	Phe	225	230	235	240
Val	Pro	Arg	Leu	Thr	Pro	Trp	Ile	Val	Ala	Val	Ala	Ile	Ile	Leu	Leu	245	250		255
Ala	Leu	Gly	Phe	Leu	Thr	Ile	Gly	Ser	Ile	Phe	Phe	Thr	Trp	Lys	Leu	260	265		270
Tyr	Lys	Glu	Arg	Ser	Ser	Leu	Arg	Lys	Lys	Glu	Phe	Gly	Ser	Lys	Glu	275	280		285
Arg	Leu	Leu	Glu	Glu	Leu	Arg	Cys	Lys	Lys	Thr	Val	Leu	His	Glu	Val	290	295		300
Asp	Val	Thr	Leu	Asp	Pro	Asp	Thr	Ala	His	Pro	His	Leu	Phe	Leu	Tyr	305	310	315	320
Glu	Asp	Ser	Lys	Ser	Val	Arg	Leu	Glu	Asp	Ser	Arg	Gln	Ile	Leu	Pro	325	330		335
Asp	Arg	Pro	Glu	Arg	Phe	Asp	Ser	Trp	Pro	Cys	Val	Leu	Gly	Arg	Glu	340	345		350
Thr	Phe	Thr	Ser	Gly	Arg	His	Tyr	Trp	Glu	Val	Glu	Val	Gly	Asp	Arg	355	360		365
Thr	Asp	Trp	Ala	Ile	Gly	Val	Cys	Arg	Glu	Asn	Val	Val	Lys	Lys	Gly	370	375		380
Phe	Asp	Pro	Met	Thr	Pro	Asp	Asn	Gly	Phe	Trp	Ala	Val	Glu	Leu	Tyr	385	390	395	400
Gly	Asn	Gly	Tyr	Trp	Ala	Leu	Thr	Pro	Leu	Arg	Thr	Ser	Leu	Arg	Leu	405	410		415
Ala	Gly	Pro	Pro	Arg	Arg	Val	Gly	Val	Phe	Leu	Asp	Tyr	Asp	Ala	Gly	420	425		430
Asp	Ile	Ser	Phe	Tyr	Asn	Met	Ser	Asn	Gly	Ser	Leu	Ile	Tyr	Thr	Phe	435	440		445



Pro Ser Ile Ser Phe Ser Gly Pro Leu Arg Pro Phe Phe Cys Leu Trp  
 450 455 460

Ser Cys Gly Lys Lys Pro Leu Thr Ile Cys Ser Thr Ala Asn Gly Pro  
 465 470 475 480

Glu Lys Val Thr Val Ile Ala Asn Val Gln Asp Asp Ile Pro Leu Ser  
 485 490 495

Pro Leu Gly Glu Gly Cys Thr Ser Gly Asp Lys Asp Thr Leu His Ser  
 500 505 510

Lys Leu Ile Pro Phe Ser Pro Ser Gln Ala Ala Pro  
 515 520

<210> 68

<211> 524

<212> PRT

<213> Mus musculus

<400> 68

Met Ala Val Pro Thr Asn Ser Cys Leu Leu Val Cys Leu Leu Thr Leu  
 1 5 10 15

Thr Val Leu Gln Leu Pro Thr Leu Asp Ser Ala Ala Pro Phe Asp Val  
 20 25 30

Thr Ala Pro Gln Glu Pro Val Leu Ala Leu Val Gly Ser Asp Ala Glu  
 35 40 45

Leu Thr Cys Gly Phe Ser Pro Asn Ala Ser Ser Glu Tyr Met Glu Leu  
 50 55 60

Leu Trp Phe Arg Gln Thr Arg Ser Thr Ala Val Leu Leu Tyr Arg Asp  
 65 70 75 80

Gly Gln Glu Gln Glu Gly Gln Gln Met Thr Glu Tyr Arg Gly Arg Ala  
 85 90 95

Thr Leu Ala Thr Ala Gly Leu Leu Asp Gly Arg Ala Thr Leu Leu Ile  
 100 105 110

Arg Asp Val Arg Val Ser Asp Gln Gly Glu Tyr Arg Cys Leu Phe Lys  
 115 120 125

Asp Asn Asp Asp Phe Glu Glu Ala Ala Val Tyr Leu Lys Val Ala Ala  
 130 135 140

Val Gly Ser Asp Pro Gln Ile Ser Met Thr Val Gln Glu Asn Gly Glu  
 145 150 155 160

Met Glu Leu Glu Cys Thr Ser Ser Gly Trp Tyr Pro Glu Pro Gln Val  
 165 170 175

Gln Trp Arg Thr Gly Asn Arg Glu Met Leu Pro Ser Thr Ser Glu Ser  
 180 185 190



Pro Leu Gly Glu Gly Cys Thr Ser Gly Asp Lys Asp Thr Leu His Ser  
500 505 510

Lys Leu Ile Pro Phe Ser Pro Ser Gln Ala Ala Pro  
515 520

<210> 69  
<211> 121  
<212> PRT  
<213> Homo sapiens

<400> 69  
Gly Arg His Tyr Phe Glu Val Glu Val Phe Thr Gly Gly Asp Lys Gly  
1 5 10 15  
His Trp Arg Val Gly Trp Ala Thr Lys Ser Val Pro Arg Gly Gly Phe  
20 25 30  
Arg Leu Leu Gly Glu Asp Lys Gly Ser Trp Gly Tyr Asp Gly Asp Gly  
35 40 45  
Gly Lys Lys Tyr His Asn Ser Glu Phe Pro Glu Tyr Gly Leu Pro Phe  
50 55 60  
Gln Glu Pro Gly Asp Val Ile Gly Cys Phe Leu Asp Leu Glu Ala Gly  
65 70 75 80  
Thr Ile Ser Phe Tyr Lys Asn Gly Lys Tyr Leu Gly Leu Ala Phe Phe  
85 90 95  
Asp Val Thr Phe Ser Gly Pro Leu Tyr Pro Ala Val Ser Leu Gly Asn  
100 105 110  
Gly Gly Ser Val Arg Leu Asn Phe Gly  
115 120

<210> 70  
<211> 121  
<212> PRT  
<213> Homo sapiens

<400> 70  
Ser Gly Lys His Tyr Phe Glu Val Glu Val Asp Thr Gly Gly Glu Gly  
1 5 10 15  
His Trp Arg Val Gly Trp Ala Thr Lys Ser Val Arg Lys Pro Gly Glu  
20 25 30  
Ser Leu Leu Gly Asp Asn Glu Gly Ser Trp Gly Phe Asp Gly Ser Gly  
35 40 45  
Gly Ser Lys Tyr His Asn Gly Thr Gly Glu Asp Tyr Gly Leu Pro Phe  
50 55 60

Gln Glu Gly Asp Val Ile Gly Cys Phe Leu Asp Tyr Glu Ala Gly Glu  
65 70 75 80  
Ile Ser Phe Thr Lys Asn Gly Lys Asp Leu Gly Ile Tyr Ala Phe Arg  
85 90 95  
Asn Val Ser Phe Gly Gly Pro Leu Tyr Pro Ala Val Ser Leu Gly Ser  
100 105 110  
Gly Glu Ala Val Arg Phe Asn Phe Gly  
115 120

<210> 71  
<211> 78  
<212> PRT  
<213> Homo sapiens

<400> 71  
Ser Val Thr Leu Ser Cys Lys Ala Ser Gly Phe Thr Phe Ser Ser Tyr  
1 5 10 15  
Tyr Val Ser Trp Val Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp Leu  
20 25 30  
Gly Tyr Ile Gly Ser Asp Val Ser Tyr Ser Glu Ala Ser Tyr Lys Gly  
35 40 45  
Arg Val Thr Ile Ser Lys Asp Asn Ser Lys Asn Asp Val Ser Leu Thr  
50 55 60  
Ile Ser Asn Leu Arg Val Glu Asp Thr Gly Thr Tyr Tyr Cys  
65 70 75

<210> 72  
<211> 81  
<212> PRT  
<213> Homo sapiens

<400> 72  
Thr Val Lys Glu Gly Glu Ser Val Thr Leu Ser Cys Glu Ala Ser Gly  
1 5 10 15  
Asn Pro Pro Pro Thr Val Thr Trp Tyr Lys Gln Gly Gly Lys Leu Leu  
20 25 30  
Ala Glu Ser Gly Arg Phe Ser Val Ser Arg Ser Gly Gly Asn Ser Thr  
35 40 45  
Leu Thr Ile Ser Asn Val Thr Pro Glu Asp Ser Gly Thr Tyr Thr Cys  
50 55 60  
Ala Ala Thr Asn Ser Ser Gly Ser Ala Ser Ser Gly Thr Thr Leu Thr  
65 70 75 80

Val

<210> 73  
 <211> 109  
 <212> PRT  
 <213> Homo sapiens

<400> 73  
 Met Asp Ser Ser Pro Ala Gly Ser Arg Ser Arg Trp Gly Glu Trp Ser  
     1                    5                    10                    15  
 Glu Pro Leu Trp Cys Arg Gly Gly Ala Tyr Leu Val Ala Phe Ser Leu  
             20                    25                    30  
 Arg Val Glu Ala Pro Thr Thr Leu Gly Asp Asn Thr Ala Ala Asn Asn  
             35                    40                    45  
 Val Arg Phe Arg Cys Ser Asp Gly Glu Glu Leu Gln Gly Pro Gly Leu  
             50                    55                    60  
 Ser Trp Gly Asp Phe Gly Asp Trp Ser Asp His Cys Pro Lys Gly Ala  
             65                    70                    75                    80  
 Cys Gly Leu Gln Thr Lys Ile Gln Gly Pro Arg Gly Leu Gly Asp Asp  
                     85                    90                    95  
 Thr Ala Leu Asn Asp Ala Arg Leu Phe Cys Cys Arg Ser  
             100                    105

<210> 74  
 <211> 183  
 <212> PRT  
 <213> Gallus gallus

<400> 74  
 Met Lys Val Leu Thr Pro Ala Ala Leu Ile Leu Leu Phe Phe Phe Tyr  
     1                    5                    10                    15  
 Thr Val Asp Ala Arg Thr Arg Glu Tyr Thr Ser Val Ile Thr Val Pro  
             20                    25                    30  
 Asn Gly Gly His Trp Gly Lys Trp Gly Ile Arg Gln Phe Cys His Ser  
             35                    40                    45  
 Gly Tyr Ala Asn Gly Phe Ala Leu Lys Val Glu Pro Ser Gln Phe Gly  
             50                    55                    60  
 Arg Asp Asp Thr Ala Leu Asn Gly Ile Arg Leu Arg Cys Leu Asp Gly  
             65                    70                    75                    80  
 Ser Val Ile Glu Ser Leu Val Gly Lys Trp Gly Thr Trp Thr Ser Phe  
                     85                    90                    95  
 Leu Val Cys Pro Thr Gly Tyr Leu Val Ser Phe Ser Leu Arg Ser Glu  
             100                    105                    110

Lys Ser Gln Gly Gly Gly Asp Asp Thr Ala Ala Asn Asn Ile Gln Phe  
           115                          120                          125  
 Arg Cys Ser Asp Glu Ala Val Leu Val Gly Asp Gly Leu Ser Trp Gly  
       130                          135                          140  
 Arg Phe Gly Pro Trp Ser Lys Arg Cys Lys Ile Cys Gly Leu Gln Thr  
 145                          150                          155                          160  
 Lys Val Glu Ser Pro Gln Gly Leu Arg Asp Asp Thr Ala Leu Asn Asn  
                           165                          170                          175  
 Val Arg Phe Phe Cys Cys Lys  
           180

<210> 75  
 <211> 163  
 <212> PRT  
 <213> Gallus gallus

<400> 75  
 Arg Thr Arg Glu Tyr Thr Ser Val Ile Thr Val Pro Asn Gly Gly His  
   1                          5                          10                          15  
 Trp Gly Lys Trp Gly Ile Arg Gln Phe Cys His Ser Gly Tyr Ala Asn  
           20                          25                          30  
 Gly Phe Ala Leu Lys Val Glu Pro Ser Gln Phe Gly Arg Asp Asp Thr  
           35                          40                          45  
 Ala Leu Asn Gly Ile Arg Leu Arg Cys Leu Asp Gly Ser Val Ile Glu  
       50                          55                          60  
 Ser Leu Val Gly Lys Trp Gly Thr Trp Thr Ser Phe Leu Val Cys Pro  
   65                          70                          75                          80  
 Thr Gly Tyr Leu Val Ser Phe Ser Leu Arg Ser Glu Lys Ser Gln Gly  
           85                          90                          95  
 Gly Gly Asp Asp Thr Ala Ala Asn Asn Ile Gln Phe Arg Cys Ser Asp  
           100                          105                          110  
 Glu Ala Val Leu Val Gly Asp Gly Leu Ser Trp Gly Arg Phe Gly Pro  
       115                          120                          125  
 Trp Ser Lys Arg Cys Lys Ile Cys Gly Leu Gln Thr Lys Val Glu Ser  
       130                          135                          140  
 Pro Gln Gly Leu Arg Asp Asp Thr Ala Leu Asn Asn Val Arg Phe Phe  
 145                          150                          155                          160  
 Cys Cys Lys

<210> 76  
 <211> 200  
 <212> PRT  
 <213> *Cyprinus carpio*

<400> 76  
 Met Ile Ser Leu Leu Val Ile Thr Gly Leu Gln Gly Ser Val Glu Ala  
   1                  5                  10                  15  
 Arg Arg Arg Arg Ile Lys Arg Ser Ser Asp Arg Tyr Tyr Arg Ser Glu  
                   20                  25                  30  
 Leu Thr Val Pro Asn Gly Gly Gly Trp Gly Ser Trp Gly Gln Arg Glu  
           35                  40                  45  
 Met Cys Pro Ala Gly Thr Tyr Ala Ala Gly Phe Ser Leu Arg Val Glu  
       50                  55                  60  
 Asp Pro Val Gly Arg Glu Asp Asp Thr Ala Leu Asn Gly Ile Arg Leu  
   65                  70                  75                  80  
 His Cys Ile Glu Ser Lys Ala Ser Ser Asp Ser Tyr His Ser Tyr Ser  
                   85                  90                  95  
 Thr Gly Gln Ser Asp Val Phe Ser Trp Gly Arg Trp Thr Asp Ile Lys  
           100                  105                  110  
 Trp Cys Pro Ser Gly Phe Leu Thr Ala Phe Gln Leu Arg Val Glu Arg  
       115                  120                  125  
 Ser Gln Gly Asp Gly Asp Asp Thr Ala Ala Asn Asn Ile Leu Phe Arg  
   130                  135                  140  
 Cys Ser Gln Gly Thr Leu Gln Gly Asp Gly Thr Asn Trp Gly Asp Trp  
  145                  150                  155                  160  
 Gly Thr Trp Ser Leu Thr Cys Glu Gly Lys Gly Ile Cys Gly Leu Lys  
           165                  170                  175  
 Thr Arg Ile Glu Val Pro Gln Gly Arg Asp Asp Asp Thr Ser Leu Asn  
           180                  185                  190  
 Asp Val Ile Met Tyr Cys Cys Asp  
       195                  200

<210> 77  
 <211> 360  
 <212> PRT  
 <213> *Caenorhabditis elegans*

<400> 77  
 Met Lys Cys Gly Ala Lys Leu Asn Leu Ser Glu Phe Ser Ile Asn Thr  
   1                  5                  10                  15  
 Glu Pro Leu Leu Thr Ile Ser Ser Glu Met Ile Val Leu Ile Thr Leu  
           20                  25                  30

Leu Leu Phe Ala Ile Pro Ile Leu Cys Asn Lys Val Glu Leu Arg Ser  
 35 40 45  
 Pro Arg Val Thr Thr Phe Gly Asp Trp Asn Ser Trp Ala Arg Cys Arg  
 50 55 60  
 Asp Gly Glu Phe Ala Tyr Ala Ile Gln Val Lys Val Glu Gly Lys Gln  
 65 70 75 80  
 Gly Ser Arg Gly Asp Asp Thr Gly Leu Asn Ala Val Ala Leu Tyr Cys  
 85 90 95  
 Arg Pro Leu Gly Ser Asp Ala Ile Ser Arg Asn Asn Lys Ile Met Ser  
 100 105 110  
 Gly Glu Ala Pro Trp Gly Gly Trp Gly Gly Ile Lys Tyr Cys Pro Asn  
 115 120 125  
 Asn Lys Val Leu Ile Gly Phe Thr Leu Arg Ser Glu Gln Asn Gln Arg  
 130 135 140  
 Asp Gly Asp Asp Cys Ala Ala Asp Asn Phe Ala Gly Tyr Cys Gly Thr  
 145 150 155 160  
 Pro His Gly Pro Arg Asn Arg Asp Ser Arg Ile Gln Gly Asp Gly Thr  
 165 170 175  
 Gly Trp Gly Asp Trp Thr Asp Asp Gln Trp Cys Pro Glu Gly Tyr Ala  
 180 185 190  
 Val Cys Gly Ile Gln Ser Gln Ile Glu Lys Glu Gln Gly Arg Gly Asp  
 195 200 205  
 Asp Thr Ala Val Asn Asn Val Asp Leu Glu Cys Cys Gln Val Gly Val  
 210 215 220  
 Ser Ser Cys Asn Pro Gly Tyr Ser Leu Val Arg Ile Gly Glu Tyr Asp  
 225 230 235 240  
 Asn Arg Arg Gly Ala Gly Thr Val Thr Lys Glu Phe Gln Gln Arg Val  
 245 250 255  
 Ser Ile Thr Lys Thr Ser Gly Val Thr Thr Thr Leu Ser Asn Ser Glu  
 260 265 270  
 Lys Tyr Ser Val Ser Lys Ala Ile Glu Ala Gly Ile Ser Ala Thr His  
 275 280 285  
 Gly Met Phe Thr Ala Lys Val Asn Thr Ala Leu Thr Lys Thr Ser Glu  
 290 295 300  
 Arg Ile Thr Thr Ser Gln Leu Gln Arg Met Ile Gln Asp Ala Thr Thr  
 305 310 315 320  
 His Glu Arg Ile Glu Lys Ile Thr Phe Thr Val Pro Ala Trp His Arg  
 325 330 335



Val Ile Val Glu Gln Leu Ile Ile Thr Cys Gly Gly Tyr Glu Val Gly  
 340 345 350

Ile Ala Lys Thr Ile Ser Arg Ser  
 355 360

<210> 78

<211> 1583

<212> PRT

<213> Homo sapiens

<400> 78

Leu Leu Pro His Leu Pro Pro Cys Arg Arg Arg Arg Val Met Ser Asp  
 1 5 10 15

Ser Leu Trp Thr Ala Leu Ser Asn Phe Ser Met Pro Ser Phe Pro Gly  
 20 25 30

Gly Ser Met Phe Arg Arg Thr Lys Ser Cys Arg Thr Ser Asn Arg Lys  
 35 40 45

Ser Leu Ile Leu Thr Ser Thr Ser Pro Thr Leu Pro Arg Pro His Ser  
 50 55 60

Pro Leu Pro Gly His Leu Gly Ser Ser Pro Leu Asp Ser Pro Arg Asn  
 65 70 75 80

Phe Ser Pro Asn Thr Pro Ala His Phe Ser Phe Ala Ser Ser Arg Arg  
 85 90 95

Ala Asp Gly Arg Arg Trp Ser Leu Ala Ser Leu Pro Ser Ser Gly Tyr  
 100 105 110

Gly Thr Asn Thr Pro Ser Ser Thr Val Ser Ser Ser Cys Ser Ser Gln  
 115 120 125

Glu Arg Leu His Gln Leu Pro Tyr Gln Pro Thr Val Asp Glu Leu His  
 130 135 140

Phe Leu Ser Lys His Phe Gly Ser Thr Glu Ser Ile Thr Asp Glu Asp  
 145 150 155 160

Gly Gly Arg Arg Ser Pro Ala Val Arg Pro Arg Ser Arg Ser Leu Ser  
 165 170 175

Pro Gly Arg Ser Pro Ser Ser Tyr Asp Asn Glu Ile Val Met Met Asn  
 180 185 190

His Val Tyr Lys Glu Arg Phe Pro Lys Ala Thr Ala Gln Met Glu Glu  
 195 200 205

Lys Leu Arg Asp Phe Thr Arg Ala Tyr Glu Pro Asp Ser Val Leu Pro  
 210 215 220

Leu Ala Asp Gly Val Leu Ser Phe Ile His His Gln Ile Ile Glu Leu

225		230		235		240
Ala Arg Asp Cys Leu Thr Lys Ser Arg Asp Gly Leu Ile Thr Thr Val						
	245			250		255
Tyr Phe Tyr Glu Leu Gln Glu Asn Leu Glu Lys Leu Leu Gln Asp Ala						
	260			265		270
Tyr Glu Arg Ser Glu Ser Leu Glu Val Ala Phe Val Thr Gln Leu Val						
	275			280		285
Lys Lys Leu Leu Ile Ile Ile Ser Arg Pro Ala Arg Leu Leu Glu Cys						
	290			295		300
Leu Glu Phe Asn Pro Glu Glu Phe Tyr His Leu Leu Glu Ala Ala Glu						
305		310		315		320
Gly His Ala Lys Glu Gly His Leu Val Lys Thr Asp Ile Pro Arg Tyr						
	325			330		335
Ile Ile Arg Gln Leu Gly Leu Thr Arg Asp Pro Phe Pro Asp Val Val						
	340			345		350
His Leu Glu Glu Gln Asp Ser Gly Gly Ser Asn Thr Pro Glu Gln Asp						
	355			360		365
Asp Leu Ser Glu Gly Arg Ser Ser Lys Ala Lys Lys Pro Pro Gly Glu						
	370			375		380
Asn Asp Phe Asp Thr Ile Lys Leu Ile Ser Asn Gly Ala Tyr Gly Ala						
385		390		395		400
Val Tyr Leu Val Arg His Arg Asp Thr Arg Gln Arg Phe Ala Met Lys						
	405			410		415
Lys Ile Asn Lys Gln Asn Leu Ile Leu Arg Asn Gln Ile Gln Gln Ala						
	420			425		430
Phe Val Glu Arg Asp Ile Leu Thr Phe Ala Glu Asn Pro Phe Val Val						
	435			440		445
Gly Met Phe Cys Ser Phe Glu Thr Arg Arg His Leu Cys Met Val Met						
	450			455		460
Glu Tyr Val Glu Gly Gly Asp Cys Ala Thr Leu Leu Lys Asn Ile Gly						
465		470		475		480
Ala Leu Pro Val Glu Met Ala Arg Met Tyr Phe Ala Glu Thr Val Leu						
	485			490		495
Ala Leu Glu Tyr Leu His Asn Tyr Gly Ile Val His Arg Asp Leu Lys						
	500			505		510
Pro Asp Asn Leu Leu Ile Thr Ser Met Gly His Ile Lys Leu Thr Asp						
	515			520		525
Phe Gly Leu Ser Lys Met Gly Leu Met Ser Leu Thr Thr Asn Leu Tyr						

530					535					540					
Glu	Gly	His	Ile	Glu	Lys	Asp	Ala	Arg	Glu	Phe	Leu	Asp	Lys	Gln	Val
545					550					555					560
Cys	Gly	Thr	Pro	Glu	Tyr	Ile	Ala	Pro	Glu	Val	Ile	Leu	Arg	Gln	Gly
				565					570					575	
Tyr	Gly	Lys	Pro	Val	Asp	Trp	Trp	Ala	Met	Gly	Ile	Ile	Leu	Tyr	Glu
			580					585					590		
Phe	Leu	Val	Gly	Cys	Val	Pro	Phe	Phe	Gly	Asp	Thr	Pro	Glu	Glu	Leu
		595					600					605			
Phe	Gly	Gln	Val	Ile	Ser	Asp	Asp	Ile	Leu	Trp	Pro	Glu	Gly	Asp	Glu
	610					615					620				
Ala	Leu	Pro	Thr	Glu	Ala	Gln	Leu	Leu	Ile	Ser	Ser	Leu	Leu	Gln	Thr
625					630					635					640
Asn	Pro	Leu	Val	Arg	Leu	Gly	Ala	Gly	Gly	Ala	Phe	Glu	Val	Lys	Gln
				645					650					655	
His	Ser	Phe	Phe	Arg	Asp	Leu	Asp	Trp	Thr	Gly	Leu	Leu	Arg	Gln	Lys
			660					665					670		
Ala	Glu	Phe	Ile	Pro	His	Leu	Glu	Ser	Glu	Asp	Asp	Thr	Ser	Tyr	Phe
		675					680					685			
Asp	Thr	Arg	Ser	Asp	Arg	Tyr	His	His	Val	Asn	Ser	Tyr	Asp	Glu	Asp
	690					695					700				
Asp	Thr	Thr	Glu	Glu	Glu	Pro	Val	Glu	Ile	Arg	Gln	Phe	Ser	Ser	Cys
705					710					715					720
Ser	Pro	Arg	Phe	Ser	Lys	Val	Tyr	Ser	Ser	Met	Glu	Gln	Leu	Ser	Gln
				725					730					735	
His	Glu	Pro	Lys	Thr	Pro	Val	Ala	Ala	Ala	Gly	Ser	Ser	Lys	Arg	Glu
			740					745					750		
Pro	Ser	Thr	Lys	Gly	Pro	Glu	Glu	Lys	Val	Ala	Gly	Lys	Arg	Glu	Gly
		755					760					765			
Leu	Gly	Gly	Leu	Thr	Leu	Arg	Glu	Lys	Thr	Trp	Arg	Gly	Gly	Ser	Pro
	770					775					780				
Glu	Ile	Lys	Arg	Phe	Ser	Ala	Ser	Glu	Ala	Ser	Phe	Leu	Glu	Gly	Glu
785					790					795					800
Ala	Ser	Pro	Pro	Leu	Gly	Ala	Arg	Arg	Arg	Phe	Ser	Ala	Leu	Leu	Glu
				805					810					815	
Pro	Ser	Arg	Phe	Ser	Ala	Pro	Gln	Glu	Asp	Glu	Asp	Glu	Ala	Arg	Leu
			820					825					830		
Arg	Arg	Pro	Pro	Arg	Pro	Ser	Ser	Asp	Pro	Ala	Gly	Ser	Leu	Asp	Ala

835					840					845						
Arg	Ala	Pro	Lys	Glu	Glu	Thr	Gln	Gly	Glu	Gly	Thr	Ser	Ser	Ala	Gly	
850					855					860						
Asp	Ser	Glu	Ala	Thr	Asp	Arg	Pro	Arg	Pro	Gly	Asp	Leu	Cys	Pro	Pro	
865					870					875					880	
Ser	Lys	Asp	Gly	Asp	Ala	Ser	Gly	Pro	Arg	Ala	Thr	Asn	Asp	Leu	Val	
885					890					895						
Leu	Arg	Arg	Ala	Arg	His	Gln	Gln	Met	Ser	Gly	Asp	Val	Ala	Val	Glu	
900					905					910						
Lys	Arg	Pro	Ser	Arg	Thr	Gly	Gly	Lys	Val	Ile	Lys	Ser	Ala	Ser	Ala	
915					920					925						
Thr	Ala	Leu	Ser	Val	Met	Ile	Pro	Ala	Val	Asp	Pro	His	Gly	Ser	Ser	
930					935					940						
Pro	Leu	Ala	Ser	Pro	Met	Ser	Pro	Arg	Ser	Leu	Ser	Ser	Asn	Pro	Ser	
945					950					955					960	
Ser	Arg	Asp	Ser	Ser	Pro	Ser	Arg	Asp	Tyr	Ser	Pro	Ala	Val	Ser	Gly	
965					970					975						
Leu	Arg	Ser	Pro	Ile	Thr	Ile	Gln	Arg	Ser	Gly	Lys	Lys	Tyr	Gly	Phe	
980					985					990						
Thr	Leu	Arg	Ala	Ile	Arg	Val	Tyr	Met	Gly	Asp	Thr	Asp	Val	Tyr	Ser	
995					1000					1005						
Val	His	His	Ile	Val	Trp	His	Val	Glu	Glu	Gly	Gly	Pro	Ala	Gln	Glu	
1010					1015					1020						
Ala	Gly	Leu	Cys	Ala	Gly	Asp	Leu	Ile	Thr	His	Val	Asn	Gly	Glu	Pro	
1025					1030					1035					1040	
Val	His	Gly	Met	Val	His	Pro	Glu	Val	Val	Glu	Leu	Ile	Leu	Lys	Ser	
1045					1050					1055						
Gly	Asn	Lys	Val	Ala	Val	Thr	Thr	Thr	Pro	Phe	Glu	Asn	Thr	Ser	Ile	
1060					1065					1070						
Arg	Ile	Gly	Pro	Ala	Arg	Arg	Ser	Ser	Tyr	Lys	Ala	Lys	Met	Ala	Arg	
1075					1080					1085						
Arg	Asn	Lys	Arg	Pro	Ser	Ala	Lys	Glu	Gly	Gln	Glu	Ser	Lys	Lys	Arg	
1090					1095					1100						
Ser	Ser	Leu	Phe	Arg	Lys	Ile	Thr	Lys	Gln	Ser	Asn	Leu	Leu	His	Thr	
1105					1110					1115					1120	
Ser	Arg	Ser	Leu	Ser	Ser	Leu	Asn	Arg	Ser	Leu	Ser	Ser	Ser	Asp	Ser	
1125					1130					1135						
Leu	Pro	Gly	Ser	Pro	Thr	His	Gly	Leu	Pro	Ala	Arg	Ser	Pro	Thr	His	

1140	1145	1150
Ser Tyr Arg Ser Thr Pro Asp Ser Ala Tyr Leu Gly Ala Ser Ser Gln 1155 1160 1165		
Ser Ser Ser Pro Ala Ser Ser Thr Pro Asn Ser Pro Ala Ser Ser Ala 1170 1175 1180		
Ser His His Ile Arg Pro Ser Thr Leu His Gly Leu Ser Pro Lys Leu 1185 1190 1195 1200		
His Arg Gln Tyr Arg Ser Ala Arg Cys Lys Ser Ala Gly Asn Ile Pro 1205 1210 1215		
Leu Ser Pro Leu Ala His Thr Pro Ser Pro Thr Gln Ala Ser Pro Pro 1220 1225 1230		
Pro Leu Pro Gly His Thr Val Gly Ser Ser His Thr Thr Gln Ser Phe 1235 1240 1245		
Pro Ala Lys Leu His Ser Ser Pro Pro Val Val Arg Pro Arg Pro Lys 1250 1255 1260		
Ser Ala Glu Pro Pro Arg Ser Pro Leu Leu Lys Arg Val Gln Ser Ala 1265 1270 1275 1280		
Glu Lys Leu Gly Ala Ser Leu Ser Ala Asp Lys Lys Gly Ala Leu Arg 1285 1290 1295		
Lys His Ser Leu Glu Val Gly His Pro Asp Phe Arg Lys Asp Phe His 1300 1305 1310		
Gly Glu Leu Ala Leu His Ser Leu Ala Glu Ser Asp Gly Glu Thr Pro 1315 1320 1325		
Pro Val Glu Gly Leu Gly Ala Pro Arg Gln Val Ala Val Arg Arg Leu 1330 1335 1340		
Gly Arg Gln Glu Ser Pro Leu Ser Leu Gly Ala Asp Pro Leu Leu Pro 1345 1350 1355 1360		
Glu Gly Ala Ser Arg Pro Pro Val Ser Ser Lys Glu Lys Glu Ser Pro 1365 1370 1375		
Gly Gly Ala Glu Ala Cys Thr Pro Pro Arg Ala Thr Thr Pro Gly Gly 1380 1385 1390		
Arg Thr Leu Glu Arg Asp Val Gly Cys Thr Arg His Gln Ser Val Gln 1395 1400 1405		
Thr Glu Asp Gly Thr Gly Gly Met Ala Arg Ala Val Ala Lys Ala Ala 1410 1415 1420		
Leu Ser Pro Val Gln Glu His Glu Thr Gly Arg Arg Ser Ser Ser Gly 1425 1430 1435 1440		
Glu Ala Gly Thr Pro Leu Val Pro Ile Val Val Glu Pro Ala Arg Pro		

1445	1450	1455
Gly Ala Lys Ala Val Val Pro Gln Pro Leu Gly Ala Asp Ser Lys Gly		
1460	1465	1470
Leu Gln Glu Pro Ala Pro Leu Ala Pro Ser Val Pro Glu Ala Pro Arg		
1475	1480	1485
Gly Arg Glu Arg Trp Val Leu Glu Val Val Glu Glu Arg Thr Thr Leu		
1490	1495	1500
Ser Gly Pro Arg Ser Lys Pro Ala Ser Pro Lys Leu Ser Pro Glu Pro		
1505	1510	1515
Gln Thr Pro Ser Leu Ala Pro Ala Lys Cys Ser Ala Pro Ser Ser Ala		
1525	1530	1535
Val Thr Pro Val Pro Pro Ala Ser Leu Leu Gly Ser Gly Thr Lys Pro		
1540	1545	1550
Gln Val Gly Leu Thr Ser Arg Cys Pro Ala Glu Ala Val Pro Pro Ala		
1555	1560	1565
Gly Leu Thr Lys Lys Gly Val Ser Ser Pro Ala Pro Pro Gly Pro		
1570	1575	1580

<210> 79  
 <211> 2092  
 <212> PRT  
 <213> Homo sapiens

<400> 79

Met Ala His Leu Gly Asn Tyr Asp Ser Gly Thr Ala Glu Thr Pro Glu		
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Thr Asp Glu Ser Val Ser Ser Ser Asn Ala Ser Leu Lys Leu Arg Arg		
20	25	30
Lys Pro Arg Glu Ser Asp Phe Glu Thr Ile Lys Leu Ile Ser Asn Gly		
35	40	45
Ala Tyr Gly Ala Val Tyr Phe Val Arg His Lys Glu Ser Arg Gln Arg		
50	55	60
Phe Ala Met Lys Lys Ile Asn Lys Gln Asn Leu Ile Leu Arg Asn Gln		
65	70	75
Ile Gln Gln Ala Phe Val Glu Arg Asp Ile Leu Thr Phe Ala Glu Asn		
85	90	95
Pro Phe Val Val Ser Met Tyr Cys Ser Phe Glu Thr Arg Arg His Leu		
100	105	110
Cys Met Val Met Glu Tyr Val Glu Gly Gly Asp Cys Ala Thr Leu Met		
115	120	125

Lys Asn Met Gly Pro Leu Pro Val Asp Met Ala Arg Met Tyr Phe Ala  
 130 135 140  
 Glu Thr Val Leu Ala Leu Glu Tyr Leu His Asn Tyr Gly Ile Val His  
 145 150 155  
 Arg Asp Leu Lys Pro Asp Asn Leu Leu Val Thr Ser Met Gly His Ile  
 165 170 175  
 Lys Leu Thr Asp Phe Gly Leu Ser Lys Val Gly Leu Met Ser Met Thr  
 180 185 190  
 Thr Asn Leu Tyr Glu Gly His Ile Glu Lys Asp Ala Arg Glu Phe Leu  
 195 200 205  
 Asp Lys Gln Val Cys Gly Thr Pro Glu Tyr Ile Ala Pro Glu Val Ile  
 210 215 220  
 Leu Arg Gln Gly Tyr Gly Lys Pro Val Asp Trp Trp Ala Met Gly Ile  
 225 230 235  
 Ile Leu Tyr Glu Phe Leu Val Gly Cys Val Pro Phe Phe Gly Asp Thr  
 245 250 255  
 Pro Glu Glu Leu Phe Gly Gln Val Ile Ser Asp Glu Ile Asn Trp Pro  
 260 265 270  
 Glu Lys Asp Glu Ala Pro Pro Pro Asp Ala Gln Asp Leu Ile Thr Leu  
 275 280 285  
 Leu Leu Arg Gln Asn Pro Leu Glu Arg Leu Gly Thr Gly Gly Ala Tyr  
 290 295 300  
 Glu Val Lys Gln His Arg Phe Phe Arg Ser Leu Asp Trp Asn Ser Leu  
 305 310 315 320  
 Leu Arg Gln Lys Ala Glu Phe Ile Pro Gln Leu Glu Ser Glu Asp Asp  
 325 330 335  
 Thr Ser Tyr Phe Asp Thr Arg Ser Glu Lys Tyr His His Met Glu Thr  
 340 345 350  
 Glu Glu Glu Asp Asp Thr Asn Asp Glu Asp Phe Asn Val Glu Ile Arg  
 355 360 365  
 Gln Phe Ser Ser Cys Ser His Arg Phe Ser Lys Val Phe Ser Ser Ile  
 370 375 380  
 Asp Arg Ile Thr Gln Asn Ser Ala Glu Glu Lys Glu Asp Ser Val Asp  
 385 390 395 400  
 Lys Thr Lys Ser Thr Thr Leu Pro Ser Thr Glu Thr Leu Ser Trp Ser  
 405 410 415  
 Ser Glu Tyr Ser Glu Met Gln Gln Leu Ser Thr Ser Asn Ser Ser Asp  
 420 425 430

Thr Glu Ser Asn Arg His Lys Leu Ser Ser Gly Leu Leu Pro Lys Leu  
 435 440 445  
 Ala Ile Ser Thr Glu Gly Glu Gln Asp Glu Ala Ala Ser Cys Pro Gly  
 450 455 460  
 Asp Pro His Glu Glu Pro Gly Lys Pro Ala Leu Pro Pro Glu Glu Cys  
 465 470 475 480  
 Ala Gln Glu Glu Pro Glu Val Thr Thr Pro Ala Ser Thr Ile Ser Ser  
 485 490 495  
 Ser Thr Leu Ser Val Gly Ser Phe Ser Glu His Leu Asp Gln Ile Asn  
 500 505 510  
 Gly Arg Ser Glu Cys Val Asp Ser Thr Asp Asn Ser Ser Lys Pro Ser  
 515 520 525  
 Ser Glu Pro Ala Ser His Met Ala Arg Gln Arg Leu Glu Ser Thr Glu  
 530 535 540  
 Lys Lys Lys Ile Ser Gly Lys Val Thr Lys Ser Leu Ser Ala Ser Ala  
 545 550 555 560  
 Leu Ser Leu Met Ile Pro Gly Asp Met Phe Ala Val Ser Pro Leu Gly  
 565 570 575  
 Ser Pro Met Ser Pro His Ser Leu Ser Ser Asp Pro Ser Ser Ser Arg  
 580 585 590  
 Asp Ser Ser Pro Ser Arg Asp Ser Ser Ala Ala Ser Ala Ser Pro His  
 595 600 605  
 Gln Pro Ile Val Ile His Ser Ser Gly Lys Asn Tyr Gly Phe Thr Ile  
 610 615 620  
 Arg Ala Ile Arg Val Tyr Val Gly Asp Ser Asp Ile Tyr Thr Val His  
 625 630 635 640  
 His Ile Val Trp Asn Val Glu Glu Gly Ser Pro Ala Cys Gln Ala Gly  
 645 650 655  
 Leu Lys Ala Gly Asp Leu Ile Thr His Ile Asn Gly Glu Pro Val His  
 660 665 670  
 Gly Leu Val His Thr Glu Val Ile Glu Leu Leu Leu Lys Ser Gly Asn  
 675 680 685  
 Lys Val Ser Ile Thr Thr Thr Pro Phe Glu Asn Thr Ser Ile Lys Thr  
 690 695 700  
 Gly Pro Ala Arg Arg Asn Ser Tyr Lys Ser Arg Met Val Arg Arg Ser  
 705 710 715 720  
 Lys Lys Ser Lys Lys Lys Glu Ser Leu Glu Arg Arg Arg Ser Leu Phe  
 725 730 735



Lys Lys Leu Ala Lys Gln Pro Ser Pro Leu Leu His Thr Ser Arg Ser  
 740 745 750  
 Phe Ser Cys Leu Asn Arg Ser Leu Ser Ser Gly Glu Ser Leu Pro Gly  
 755 760 765  
 Ser Pro Thr His Ser Leu Ser Pro Arg Ser Pro Thr Pro Ser Tyr Arg  
 770 775 780  
 Ser Thr Pro Asp Phe Pro Ser Gly Thr Asn Ser Ser Gln Ser Ser Ser  
 785 790 795 800  
 Pro Ser Ser Ser Ala Pro Asn Ser Pro Ala Gly Ser Gly His Ile Arg  
 805 810 815  
 Pro Ser Thr Leu His Gly Leu Ala Pro Lys Leu Gly Gly Gln Arg Tyr  
 820 825 830  
 Arg Ser Gly Arg Arg Lys Ser Ala Gly Asn Ile Pro Leu Ser Pro Leu  
 835 840 845  
 Ala Arg Thr Pro Ser Pro Thr Pro Gln Pro Thr Ser Pro Gln Arg Ser  
 850 855 860  
 Pro Ser Pro Leu Leu Gly His Ser Leu Gly Asn Ser Lys Ile Ala Gln  
 865 870 875 880  
 Ala Phe Pro Ser Lys Met His Ser Pro Pro Thr Ile Val Arg His Ile  
 885 890 895  
 Val Arg Pro Lys Ser Ala Glu Pro Pro Arg Ser Pro Leu Leu Lys Arg  
 900 905 910  
 Val Gln Ser Glu Glu Lys Leu Ser Pro Ser Tyr Gly Ser Asp Lys Lys  
 915 920 925  
 His Leu Cys Ser Arg Lys His Ser Leu Glu Val Thr Gln Glu Glu Val  
 930 935 940  
 Gln Arg Glu Gln Ser Gln Arg Glu Ala Pro Leu Gln Ser Leu Asp Glu  
 945 950 955 960  
 Asn Val Cys Asp Val Pro Pro Leu Ser Arg Ala Arg Pro Val Glu Gln  
 965 970 975  
 Gly Cys Leu Lys Arg Pro Val Ser Arg Lys Val Gly Arg Gln Glu Ser  
 980 985 990  
 Val Asp Asp Leu Asp Arg Asp Lys Leu Lys Ala Lys Val Val Val Lys  
 995 1000 1005  
 Lys Ala Asp Gly Phe Pro Glu Lys Gln Glu Ser His Gln Lys Ser His  
 1010 1015 1020  
 Gly Pro Gly Ser Asp Leu Glu Asn Phe Ala Leu Phe Lys Leu Glu Glu  
 1025 1030 1035 1040

Arg Glu Lys Lys Val Tyr Pro Lys Ala Val Glu Arg Ser Ser Thr Phe  
 1045 1050 1055  
 Glu Asn Lys Ala Ser Met Gln Glu Ala Pro Pro Leu Gly Ser Leu Leu  
 1060 1065 1070  
 Lys Asp Ala Leu His Lys Gln Ala Ser Val Arg Ala Ser Glu Gly Ala  
 1075 1080 1085  
 Met Ser Asp Gly Pro Val Pro Ala Glu His Arg Gln Gly Gly Gly Asp  
 1090 1095 1100  
 Phe Arg Arg Ala Pro Ala Pro Gly Thr Leu Gln Asp Gly Leu Cys His  
 1105 1110 1115 1120  
 Ser Leu Asp Arg Gly Ile Ser Gly Lys Gly Glu Gly Thr Glu Lys Ser  
 1125 1130 1135  
 Ser Gln Ala Lys Glu Leu Leu Arg Cys Glu Lys Leu Asp Ser Lys Leu  
 1140 1145 1150  
 Ala Asn Ile Asp Tyr Leu Arg Lys Lys Met Ser Leu Glu Asp Lys Glu  
 1155 1160 1165  
 Asp Asn Leu Cys Pro Val Leu Lys Pro Lys Met Thr Ala Gly Ser His  
 1170 1175 1180  
 Glu Cys Leu Pro Gly Asn Pro Val Arg Pro Thr Gly Gly Gln Gln Glu  
 1185 1190 1195 1200  
 Pro Pro Pro Ala Ser Glu Ser Arg Ala Phe Val Ser Ser Thr His Ala  
 1205 1210 1215  
 Ala Gln Met Ser Ala Val Ser Phe Val Pro Leu Lys Ala Leu Thr Gly  
 1220 1225 1230  
 Arg Val Asp Ser Gly Thr Glu Lys Pro Gly Leu Val Ala Pro Glu Ser  
 1235 1240 1245  
 Pro Val Arg Lys Ser Pro Ser Glu Tyr Lys Leu Glu Gly Arg Ser Val  
 1250 1255 1260  
 Ser Cys Leu Lys Pro Ile Glu Gly Thr Leu Asp Ile Ala Leu Leu Ser  
 1265 1270 1275 1280  
 Gly Pro Gln Ala Ser Lys Thr Glu Leu Pro Ser Pro Glu Ser Ala Gln  
 1285 1290 1295  
 Ser Pro Ser Pro Ser Gly Asp Val Arg Ala Ser Val Pro Pro Val Leu  
 1300 1305 1310  
 Pro Ser Ser Ser Gly Lys Lys Asn Asp Thr Thr Ser Ala Arg Glu Leu  
 1315 1320 1325  
 Ser Pro Ser Ser Leu Lys Met Asn Lys Ser Tyr Leu Leu Glu Pro Trp  
 1330 1335 1340

Phe Leu Pro Pro Ser Arg Gly Leu Gln Asn Ser Pro Ala Val Ser Leu  
1345 1350 1355 1360  
Pro Asp Pro Glu Phe Lys Arg Asp Arg Lys Gly Pro His Pro Thr Ala  
1365 1370 1375  
Arg Ser Pro Gly Thr Val Met Glu Ser Asn Pro Gln Gln Arg Glu Gly  
1380 1385 1390  
Ser Ser Pro Lys His Gln Asp His Thr Thr Asp Pro Lys Leu Leu Thr  
1395 1400 1405  
Cys Leu Gly Gln Asn Leu His Ser Pro Asp Leu Ala Arg Pro Arg Cys  
1410 1415 1420  
Pro Leu Pro Pro Glu Ala Ser Pro Ser Arg Glu Lys Pro Gly Leu Arg  
1425 1430 1435 1440  
Glu Ser Ser Glu Arg Gly Pro Pro Thr Ala Arg Ser Glu Arg Ser Ala  
1445 1450 1455  
Ala Arg Ala Asp Thr Cys Arg Glu Pro Ser Met Glu Leu Cys Phe Pro  
1460 1465 1470  
Glu Thr Ala Lys Thr Ser Asp Asn Ser Lys Asn Leu Leu Ser Val Gly  
1475 1480 1485  
Arg Thr His Pro Asp Phe Tyr Thr Gln Thr Gln Ala Met Glu Lys Ala  
1490 1495 1500  
Trp Ala Pro Gly Gly Lys Thr Asn His Lys Asp Gly Pro Gly Glu Ala  
1505 1510 1515 1520  
Arg Pro Pro Pro Arg Asp Asn Ser Ser Leu His Ser Ala Gly Ile Pro  
1525 1530 1535  
Cys Glu Lys Glu Leu Gly Lys Val Arg Arg Gly Val Glu Pro Lys Pro  
1540 1545 1550  
Glu Ala Leu Leu Ala Arg Arg Ser Leu Gln Pro Pro Gly Ile Glu Ser  
1555 1560 1565  
Glu Lys Ser Glu Lys Leu Ser Ser Phe Pro Ser Leu Gln Lys Asp Gly  
1570 1575 1580  
Ala Lys Glu Pro Glu Arg Lys Glu Gln Pro Leu Gln Arg His Pro Ser  
1585 1590 1595 1600  
Ser Ile Pro Pro Pro Pro Leu Thr Ala Lys Asp Leu Ser Ser Pro Ala  
1605 1610 1615  
Ala Arg Gln His Cys Ser Ser Pro Ser His Ala Ser Gly Arg Glu Pro  
1620 1625 1630  
Gly Ala Lys Pro Ser Thr Ala Glu Pro Ser Ser Ser Pro Gln Asp Pro  
1635 1640 1645

Pro Lys Pro Val Ala Ala His Ser Glu Ser Ser Ser His Lys Pro Arg  
 1650 1655 1660  
 Pro Gly Pro Asp Pro Gly Pro Pro Lys Thr Lys His Pro Asp Arg Ser  
 1665 1670 1675 1680  
 Leu Ser Ser Gln Lys Pro Ser Val Gly Ala Thr Lys Gly Lys Glu Pro  
 1685 1690 1695  
 Ala Thr Gln Ser Leu Gly Gly Ser Ser Arg Glu Gly Lys Gly His Ser  
 1700 1705 1710  
 Lys Ser Gly Pro Asp Val Phe Pro Ala Thr Pro Gly Ser Gln Asn Lys  
 1715 1720 1725  
 Ala Ser Asp Gly Ile Gly Gln Gly Glu Gly Gly Pro Ser Val Pro Leu  
 1730 1735 1740  
 His Thr Asp Arg Ala Pro Leu Asp Ala Lys Pro Gln Pro Thr Ser Gly  
 1745 1750 1755 1760  
 Gly Arg Pro Leu Glu Val Leu Glu Lys Pro Val His Leu Pro Arg Pro  
 1765 1770 1775  
 Gly His Pro Gly Pro Ser Glu Pro Ala Asp Gln Lys Leu Ser Ala Val  
 1780 1785 1790  
 Gly Glu Lys Gln Thr Leu Ser Pro Lys His Pro Lys Pro Ser Thr Val  
 1795 1800 1805  
 Lys Asp Cys Pro Thr Leu Cys Lys Gln Thr Asp Asn Arg Gln Thr Asp  
 1810 1815 1820  
 Lys Ser Pro Ser Gln Pro Ala Ala Asn Thr Asp Arg Arg Ala Glu Gly  
 1825 1830 1835 1840  
 Lys Lys Cys Thr Glu Ala Leu Tyr Ala Pro Ala Glu Gly Asp Lys Leu  
 1845 1850 1855  
 Glu Ala Gly Leu Ser Phe Val His Ser Glu Asn Arg Leu Lys Gly Ala  
 1860 1865 1870  
 Glu Arg Pro Ala Ala Gly Val Gly Lys Gly Phe Pro Glu Ala Arg Gly  
 1875 1880 1885  
 Lys Gly Pro Gly Pro Gln Lys Pro Pro Thr Glu Ala Asp Lys Pro Asn  
 1890 1895 1900  
 Gly Met Lys Arg Ser Pro Ser Ala Thr Gly Gln Ser Ser Phe Arg Ser  
 1905 1910 1915 1920  
 Thr Ala Leu Pro Glu Lys Ser Leu Ser Cys Ser Ser Ser Phe Pro Glu  
 1925 1930 1935  
 Thr Arg Ala Gly Val Arg Glu Ala Ser Ala Ala Ser Ser Asp Thr Ser  
 1940 1945 1950

Ser Ala Lys Ala Ala Gly Gly Met Leu Glu Leu Pro Ala Pro Ser Asn  
 1955 1960 1965  
 Arg Asp His Arg Lys Ala Gln Pro Ala Gly Glu Gly Arg Thr His Met  
 1970 1975 1980  
 Thr Lys Ser Asp Ser Leu Pro Ser Phe Arg Val Ser Thr Leu Pro Leu  
 1985 1990 1995 2000  
 Glu Ser His His Pro Asp Pro Asn Thr Met Gly Gly Ala Ser His Arg  
 2005 2010 2015  
 Asp Arg Ala Leu Ser Val Thr Ala Thr Val Gly Glu Thr Lys Gly Lys  
 2020 2025 2030  
 Asp Pro Ala Pro Ala Gln Pro Pro Pro Ala Arg Lys Gln Asn Val Gly  
 2035 2040 2045  
 Arg Asp Val Thr Lys Pro Ser Pro Ala Pro Asn Thr Asp Arg Pro Ile  
 2050 2055 2060  
 Ser Leu Ser Asn Glu Lys Asp Phe Val Val Arg Gln Arg Arg Gly Lys  
 2065 2070 2075 2080  
 Glu Ser Leu Arg Ser Ser Pro His Lys Lys Ala Leu  
 2085 2090

<210> 80  
 <211> 1308  
 <212> PRT  
 <213> Homo sapiens

<400> 80

Asp Glu Ser Ser Leu Leu Arg Arg Arg Gly Leu Gln Lys Glu Leu Ser  
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 Leu Pro Arg Arg Gly Arg Gly Cys Arg Ser Gly Asn Arg Lys Ser Leu  
 20 25 30  
 Val Val Gly Thr Pro Ser Pro Thr Leu Ser Arg Pro Leu Ser Pro Leu  
 35 40 45  
 Ser Val Pro Thr Ala Gly Ser Ser Pro Leu Asp Ser Pro Arg Asn Phe  
 50 55 60  
 Ser Ala Ala Ser Ala Leu Asn Phe Pro Phe Ala Arg Arg Ala Asp Gly  
 65 70 75 80  
 Arg Arg Trp Ser Leu Ala Ser Leu Pro Ser Ser Gly Tyr Gly Thr Asn  
 85 90 95  
 Thr Pro Ser Ser Thr Leu Ser Ser Ser Ser Ser Arg Glu Arg Leu  
 100 105 110  
 His Gln Leu Pro Phe Gln Pro Thr Pro Asp Glu Leu His Phe Leu Ser  
 115 120 125

Lys His Phe Arg Ser Ser Glu Asn Val Leu Asp Glu Glu Gly Gly Arg  
 130 135 140  
 Ser Pro Arg Leu Arg Pro Arg Ser Arg Ser Leu Ser Pro Gly Arg Ala  
 145 150 155 160  
 Thr Gly Thr Phe Asp Asn Glu Ile Val Met Met Asn His Val Tyr Arg  
 165 170 175  
 Glu Arg Phe Pro Lys Ala Thr Ala Gln Met Glu Gly Arg Leu Gln Glu  
 180 185 190  
 Phe Leu Thr Ala Tyr Ala Pro Gly Ala Arg Leu Ala Leu Ala Asp Gly  
 195 200 205  
 Val Leu Gly Phe Ile His His Gln Ile Val Glu Leu Ala Arg Asp Cys  
 210 215 220  
 Leu Ala Lys Ser Gly Glu Asn Leu Val Thr Ser Arg Tyr Phe Leu Glu  
 225 230 235 240  
 Met Gln Glu Lys Leu Glu Arg Leu Leu Gln Asp Ala His Glu Arg Ser  
 245 250 255  
 Asp Ser Glu Glu Val Ser Phe Ile Val Gln Leu Val Arg Lys Leu Leu  
 260 265 270  
 Ile Ile Ile Ser Arg Pro Ala Arg Leu Leu Glu Cys Leu Glu Phe Asp  
 275 280 285  
 Pro Glu Glu Phe Tyr His Leu Leu Glu Ala Ala Glu Gly His Ala Arg  
 290 295 300  
 Glu Gly Gln Gly Ile Lys Thr Asp Leu Pro Gln Tyr Ile Ile Gly Gln  
 305 310 315 320  
 Leu Gly Leu Ala Lys Asp Pro Leu Glu Glu Met Val Pro Leu Ser His  
 325 330 335  
 Leu Glu Glu Glu Gln Pro Pro Ala Pro Glu Ser Pro Glu Ser Arg Ala  
 340 345 350  
 Leu Val Gly Gln Ser Arg Arg Lys Pro Cys Glu Ser Asp Phe Glu Thr  
 355 360 365  
 Ile Lys Leu Ile Ser Asn Gly Ala Tyr Gly Ala Val Tyr Leu Val Arg  
 370 375 380  
 His Arg Asp Thr Arg Gln Arg Phe Ala Ile Lys Lys Ile Asn Lys Gln  
 385 390 395 400  
 Asn Leu Ile Leu Arg Asn Gln Ile Gln Gln Val Phe Val Glu Arg Asp  
 405 410 415  
 Ile Leu Thr Phe Ala Glu Asn Pro Phe Val Val Ser Met Phe Cys Ser  
 420 425 430

Phe Glu Thr Arg Arg His Leu Cys Met Val Met Glu Tyr Val Glu Gly  
435 440 445  
Gly Asp Cys Ala Thr Leu Leu Lys Asn Met Gly Pro Leu Pro Val Asp  
450 455 460  
Met Ala Arg Leu Tyr Phe Ala Glu Thr Val Leu Ala Leu Glu Tyr Leu  
465 470 475 480  
His Asn Tyr Gly Ile Val His Arg Asp Leu Lys Pro Asp Asn Leu Leu  
485 490 495  
Ile Thr Ser Leu Gly His Ile Lys Leu Thr Asp Phe Gly Leu Ser Lys  
500 505 510  
Ile Gly Leu Met Ser Met Ala Thr Asn Leu Tyr Glu Gly His Ile Glu  
515 520 525  
Lys Asp Ala Arg Glu Phe Ile Asp Lys Gln Val Cys Gly Thr Pro Glu  
530 535 540  
Tyr Ile Ala Pro Glu Val Ile Phe Arg Gln Gly Tyr Gly Lys Pro Val  
545 550 555 560  
Asp Trp Trp Ala Met Gly Val Val Leu Tyr Glu Phe Leu Val Gly Cys  
565 570 575  
Val Pro Phe Phe Gly Asp Thr Pro Glu Glu Leu Phe Gly Gln Val Val  
580 585 590  
Ser Asp Glu Ile Met Trp Pro Glu Gly Asp Glu Ala Leu Pro Ala Asp  
595 600 605  
Ala Gln Asp Leu Ile Thr Arg Leu Leu Arg Gln Ser Pro Leu Asp Arg  
610 615 620  
Leu Gly Thr Gly Gly Thr His Glu Val Lys Gln His Pro Phe Phe Leu  
625 630 635 640  
Ala Leu Asp Trp Ala Gly Leu Leu Arg His Lys Ala Glu Phe Val Pro  
645 650 655  
Gln Leu Glu Ala Glu Asp Asp Thr Ser Tyr Phe Asp Thr Arg Ser Glu  
660 665 670  
Arg Tyr Arg His Leu Gly Ser Glu Asp Asp Glu Thr Asn Asp Glu Glu  
675 680 685  
Ser Ser Thr Glu Ile Pro Gln Phe Ser Ser Cys Ser His Arg Phe Ser  
690 695 700  
Lys Val Tyr Ser Ser Ser Glu Phe Leu Ala Val Gln Pro Thr Pro Thr  
705 710 715 720  
Phe Ala Glu Arg Ser Phe Ser Glu Asp Arg Glu Glu Gly Trp Glu Arg  
725 730 735

Ser Glu Val Asp Tyr Gly Arg Arg Leu Ser Ala Asp Ile Arg Leu Arg  
 740 745 750  
 Ser Trp Thr Ser Ser Gly Ser Ser Cys Gln Ser Ser Ser Ser Gln Pro  
 755 760 765  
 Glu Arg Gly Pro Ser Pro Ser Leu Leu Asn Thr Ile Ser Leu Asp Thr  
 770 775 780  
 Met Pro Lys Phe Ala Phe Ser Ser Glu Asp Glu Gly Val Gly Pro Gly  
 785 790 795 800  
 Pro Ala Gly Pro Lys Arg Pro Val Phe Ile Leu Gly Glu Pro Asp Pro  
 805 810 815  
 Pro Pro Ala Ala Thr Pro Val Met Pro Lys Pro Ser Ser Leu Ser Ala  
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 Asp Thr Ala Ala Leu Ser His Ala Arg Leu Arg Ser Asn Ser Ile Gly  
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 Ala Arg His Ser Thr Pro Arg Pro Leu Asp Ala Gly Arg Gly Arg Arg  
 850 855 860  
 Leu Gly Gly Pro Arg Asp Pro Ala Pro Glu Lys Ser Arg Ala Ser Ser  
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 Ser Gly Gly Ser Gly Gly Gly Ser Gly Gly Arg Val Pro Lys Ser Ala  
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 Ser Val Ser Ala Leu Ser Leu Ile Ile Thr Ala Asp Asp Gly Ser Gly  
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 Ser Leu Arg Pro Pro Ile Val Ile His Ser Ser Gly Lys Lys Tyr Gly  
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 Phe Ser Leu Arg Ala Ile Arg Val Tyr Met Gly Asp Ser Asp Val Tyr  
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 Thr Val His His Val Val Trp Ser Val Glu Asp Gly Ser Pro Ala Gln  
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 Glu Ala Gly Leu Arg Ala Gly Asp Leu Ile Thr His Ile Asn Gly Glu  
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 Ser Val Leu Gly Leu Val His Met Asp Val Val Glu Leu Leu Leu Lys  
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 Ser Gly Asn Lys Ile Ser Leu Arg Thr Thr Ala Leu Glu Asn Thr Ser  
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 Pro Ser Ala Ser Pro Ser Ser Ser Ser Pro Ala Ser Pro Ala Ala Ala  
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 Gly His Thr Arg Pro Ser Ser Leu His Gly Leu Ala Ala Lys Leu Gly  
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 Pro Pro Arg Pro Lys Thr Gly Arg Arg Lys Ser Thr Ser Ser Ile Pro  
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 Pro Ser Pro Leu Ala Cys Pro Pro Ile Ser Ala Pro Pro Pro Arg Ser  
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Leu Gly Asn Tyr Asp Ser Gly Thr Ala Glu Thr Pro Glu Thr Asp Glu  
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Ser Val Ser Ser Ser Asn Ala Ser Leu Lys Leu Arg Arg Lys Pro Arg  
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Glu Ser Asp Phe Glu Thr Ile Lys Leu Ile Ser Asn Gly Ala Tyr Gly  
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Ala Val Tyr Phe Val Arg His Lys Glu Ser Arg Gln Arg Phe Ala Met  
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Lys Lys Ile Asn Lys Gln Asn Leu Ile Leu Arg Asn Gln Ile Gln Gln  
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Ala Phe Val Glu Arg Asp Ile Leu Thr Phe Ala Glu Asn Pro Phe Val  
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Val Ser Met Tyr Cys Ser Phe Glu Thr Arg Arg His Leu Cys Met Val  
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Met Glu Tyr Val Glu Gly Gly Asp Cys Ala Thr Leu Met Lys Asn Met  
165 170 175  
Gly Pro Leu Pro Val Asp Met Ala Arg Met Tyr Phe Ala Glu Thr Val  
180 185 190  
Leu Ala Leu Glu Tyr Leu His Asn Tyr Gly Ile Val His Arg Asp Leu  
195 200 205  
Lys Pro Asp Asn Leu Leu Val Thr Ser Met Gly His Ile Lys Leu Thr  
210 215 220  
Asp Phe Gly Leu Ser Lys Val Gly Leu Met Ser Met Thr Thr Asn Leu  
225 230 235 240  
Tyr Glu Gly His Ile Glu Lys Asp Ala Arg Glu Phe Leu Asp Lys Gln  
245 250 255  
Val Cys Gly Thr Pro Glu Tyr Ile Ala Pro Glu Val Ile Leu Arg Gln  
260 265 270  
Gly Tyr Gly Lys Pro Val Asp Trp Trp Ala Met Gly Ile Ile Leu Tyr  
275 280 285  
Glu Phe Leu Val Gly Cys Val Pro Phe Phe Gly Asp Thr Pro Glu Glu

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Glu	Ala	Pro	Pro	Pro	Asp	Ala	Gln	Asp	Leu	Ile	Thr	Leu	Leu	Leu	Arg
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Phe	Asp	Thr	Arg	Ser	Glu	Lys	Tyr	His	His	Met	Glu	Thr	Glu	Glu	Glu
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Asp	Asp	Thr	Asn	Asp	Glu	Asp	Phe	Asn	Val	Glu	Ile	Arg	Gln	Phe	Ser
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Ser	Thr	Thr	Leu	Pro	Ser	Thr	Glu	Thr	Leu	Ser	Trp	Ser	Ser	Glu	Tyr
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Asn	Arg	His	Lys	Leu	Ser	Ser	Gly	Leu	Leu	Pro	Lys	Leu	Ala	Ile	Ser
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Glu	Glu	Pro	Gly	Lys	Pro	Ala	Leu	Pro	Pro	Glu	Glu	Cys	Ala	Gln	Glu
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Glu	Pro	Glu	Val	Thr	Thr	Pro	Ala	Ser	Thr	Ile	Ser	Ser	Ser	Thr	Leu
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Ser	Val	Gly	Ser	Phe	Ser	Glu	His	Leu	Asp	Gln	Ile	Asn	Gly	Arg	Ser
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Glu	Cys	Val	Asp	Ser	Thr	Asp	Asn	Ser	Ser	Lys	Pro	Ser	Ser	Glu	Pro
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Ala	Ser	His	Met	Ala	Arg	Gln	Arg	Leu	Glu	Ser	Thr	Glu	Lys	Lys	Lys
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Pro	Ser	Arg	Asp	Ser	Ser	Ala	Ala	Ser	Ala	Ser	Pro	His	Gln	Pro	Ile
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Val	Ile	His	Ser	Ser	Gly	Lys	Asn	Tyr	Gly	Phe	Thr	Ile	Arg	Ala	Ile
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Arg	Val	Tyr	Val	Gly	Asp	Ser	Asp	Ile	Tyr	Thr	Val	His	His	Ile	Val
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Trp	Asn	Val	Glu	Glu	Gly	Ser	Pro	Ala	Cys	Gln	Ala	Gly	Leu	Lys	Ala
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His	Thr	Glu	Val	Ile	Glu	Leu	Leu	Leu	Lys	Ser	Gly	Asn	Lys	Val	Ser
				725					730					735	
Ile	Thr	Thr	Thr	Pro	Phe	Glu	Asn	Thr	Ser	Ile	Lys	Thr	Gly	Pro	Ala
				740				745					750		
Arg	Arg	Asn	Ser	Tyr	Lys	Ser	Arg	Met	Val	Arg	Arg	Ser	Lys	Lys	Ser
		755					760					765			
Lys	Lys	Lys	Glu	Ser	Leu	Glu	Arg	Arg	Arg	Ser	Leu	Phe	Lys	Lys	Leu
	770					775					780				
Ala	Lys	Gln	Pro	Ser	Pro	Leu	Leu	His	Thr	Ser	Arg	Ser	Phe	Ser	Cys
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Leu	Asn	Arg	Ser	Leu	Ser	Ser	Gly	Glu	Ser	Leu	Pro	Gly	Ser	Pro	Thr
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His	Ser	Leu	Ser	Pro	Arg	Ser	Pro	Thr	Pro	Ser	Tyr	Arg	Ser	Thr	Pro
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Asp	Phe	Pro	Ser	Gly	Thr	Asn	Ser	Ser	Gln	Ser	Ser	Ser	Pro	Ser	Ser
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Ser	Ala	Pro	Asn	Ser	Pro	Ala	Gly	Ser	Gly	His	Ile	Arg	Pro	Ser	Thr
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Leu	His	Gly	Leu	Ala	Pro	Lys	Leu	Gly	Gly	Gln	Arg	Tyr	Arg	Ser	Gly
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Arg	Arg	Lys	Ser	Ala	Gly	Asn	Ile	Pro	Leu	Ser	Pro	Leu	Ala	Arg	Thr
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Pro	Ser	Pro	Thr	Pro	Gln	Pro	Thr	Ser	Pro	Gln	Arg	Ser	Pro	Ser	Pro

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Ser	Lys	Met	His	Ser	Pro	Pro	Thr	Ile	Val	Arg	His	Ile	Val	Arg	Pro
	930					935					940				
Lys	Ser	Ala	Glu	Pro	Pro	Arg	Ser	Pro	Leu	Leu	Lys	Arg	Val	Gln	Ser
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Glu	Glu	Lys	Leu	Ser	Pro	Ser	Tyr	Gly	Ser	Asp	Lys	Lys	His	Leu	Cys
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		995					1000					1005			
Asp	Val	Pro	Pro	Leu	Ser	Arg	Ala	Arg	Pro	Val	Glu	Gln	Gly	Cys	Leu
	1010					1015					1020				
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Leu	Asp	Arg	Asp	Lys	Leu	Lys	Ala	Lys	Val	Val	Val	Lys	Lys	Ala	Asp
			1045					1050						1055	
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		1060					1065						1070		
Ser	Asp	Leu	Glu	Asn	Phe	Ala	Leu	Phe	Lys	Leu	Glu	Glu	Arg	Glu	Lys
	1075					1080					1085				
Lys	Val	Tyr	Pro	Lys	Ala	Val	Glu	Arg	Ser	Ser	Thr	Phe	Glu	Asn	Lys
	1090					1095					1100				
Ala	Ser	Met	Gln	Glu	Ala	Pro	Pro	Leu	Gly	Ser	Leu	Leu	Lys	Asp	Ala
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Leu	His	Lys	Gln	Ala	Ser	Val	Arg	Ala	Ser	Glu	Gly	Ala	Met	Ser	Asp
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		1140					1145					1150			
Ala	Pro	Ala	Pro	Gly	Thr	Leu	Gln	Asp	Gly	Leu	Cys	His	Ser	Leu	Asp
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Arg	Gly	Ile	Ser	Gly	Lys	Gly	Glu	Gly	Thr	Glu	Lys	Ser	Ser	Gln	Ala
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Lys	Glu	Leu	Leu	Arg	Cys	Glu	Lys	Leu	Asp	Ser	Lys	Leu	Ala	Asn	Ile
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Cys	Pro	Val	Leu	Lys	Pro	Lys	Met	Thr	Ala	Gly	Ser	His	Glu	Cys	Leu	
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Ser	Gly	Thr	Glu	Lys	Pro	Gly	Leu	Val	Ala	Pro	Glu	Ser	Pro	Val	Arg	
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Glu	Pro	Ile	Glu	Gly	Thr	Leu	Asp	Ile	Ala	Leu	Leu	Ser	Gly	Pro	Gln	
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Ala	Ser	Lys	Thr	Glu	Leu	Pro	Ser	Pro	Glu	Ser	Ala	Gln	Ser	Pro	Ser	
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Pro	Ser	Gly	Asp	Val	Arg	Ala	Ser	Val	Pro	Pro	Val	Leu	Pro	Ser	Ser	
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Ser	Gly	Lys	Lys	Asn	Asp	Thr	Thr	Ser	Ala	Arg	Glu	Leu	Ser	Pro	Ser	
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Ser	Leu	Lys	Met	Asn	Lys	Ser	Tyr	Leu	Leu	Glu	Pro	Trp	Phe	Leu	Pro	
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Lys Thr Ser Asp Asn Ser Lys Asn Leu Leu Ser Val Gly Arg Thr His	1525	1530	1535
Pro Asp Phe Tyr Thr Gln Thr Gln Ala Met Glu Lys Ala Trp Ala Pro	1540	1545	1550
Gly Gly Lys Thr Asn His Lys Asp Gly Pro Gly Glu Ala Arg Pro Pro	1555	1560	1565
Pro Arg Asp Asn Ser Ser Leu His Ser Ala Gly Ile Pro Cys Glu Lys	1570	1575	1580
Glu Leu Gly Lys Val Arg Arg Gly Val Glu Pro Lys Pro Glu Ala Leu	1585	1590	1595
Leu Ala Arg Arg Ser Leu Gln Pro Pro Gly Ile Glu Ser Glu Lys Ser	1605	1610	1615
Glu Lys Leu Ser Ser Phe Pro Ser Leu Gln Lys Asp Gly Ala Lys Glu	1620	1625	1630
Pro Glu Arg Lys Glu Gln Pro Leu Gln Arg His Pro Ser Ser Ile Pro	1635	1640	1645
Pro Pro Pro Leu Thr Ala Lys Asp Leu Ser Ser Pro Ala Ala Arg Gln	1650	1655	1660
His Cys Ser Ser Pro Ser His Ala Ser Gly Arg Glu Pro Gly Ala Lys	1665	1670	1675
Pro Ser Thr Ala Glu Pro Ser Ser Ser Pro Gln Asp Pro Pro Lys Pro	1685	1690	1695
Val Ala Ala His Ser Glu Ser Ser Ser His Lys Pro Arg Pro Gly Pro	1700	1705	1710
Asp Pro Gly Pro Pro Lys Thr Lys His Pro Asp Arg Ser Leu Ser Ser	1715	1720	1725
Gln Lys Pro Ser Val Gly Ala Thr Lys Gly Lys Glu Pro Ala Thr Gln	1730	1735	1740
Ser Leu Gly Gly Ser Ser Arg Glu Gly Lys Gly His Ser Lys Ser Gly	1745	1750	1755
Pro Asp Val Phe Pro Ala Thr Pro Gly Ser Gln Asn Lys Ala Ser Asp	1765	1770	1775
Gly Ile Gly Gln Gly Glu Gly Gly Pro Ser Val Pro Leu His Thr Asp	1780	1785	1790
Arg Ala Pro Leu Asp Ala Lys Pro Gln Pro Thr Ser Gly Gly Arg Pro	1795	1800	1805
Leu Glu Val Leu Glu Lys Pro Val His Leu Pro Arg Pro Gly His Pro			

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Gln	Thr	Leu	Ser	Pro 1845	Lys	His	Pro	Lys	Pro	Ser	Thr	Val	Lys	Asp	Cys
Pro	Thr	Leu	Cys	Lys	Gln	Thr	Asp	Asn	Arg	Gln	Thr	Asp	Lys	Ser	Pro
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Thr	Glu	Ala	Leu	Tyr	Ala	Pro	Ala	Glu	Gly	Asp	Lys	Leu	Glu	Ala	Gly
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Ala	Ala	Gly	Val	Gly	Lys	Gly	Phe	Pro	Glu	Ala	Arg	Gly	Lys	Gly	Pro
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1940				1945				1950							
Arg	Ser	Pro	Ser	Ala	Thr	Gly	Gln	Ser	Ser	Phe	Arg	Ser	Thr	Ala	Leu
1955				1960				1965							
Pro	Glu	Lys	Ser	Leu	Ser	Cys	Ser	Ser	Ser	Phe	Pro	Glu	Thr	Arg	Ala
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Gly	Val	Arg	Glu	Ala	Ser	Ala	Ala	Ser	Ser	Asp	Thr	Ser	Ser	Ala	Lys
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2020				2025				2030							
Asp	Ser	Leu	Pro	Ser	Phe	Arg	Val	Ser	Thr	Leu	Pro	Leu	Glu	Ser	His
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His	Pro	Asp	Pro	Asn	Thr	Met	Gly	Gly	Ala	Ser	His	Arg	Asp	Arg	Ala
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Leu	Ser	Val	Thr	Ala	Thr	Val	Gly	Glu	Thr	Lys	Gly	Lys	Asp	Pro	Ala
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Pro	Ala	Gln	Pro	Pro	Pro	Ala	Arg	Lys	Gln	Asn	Val	Gly	Arg	Asp	Val
2085				2090				2095							
Thr	Lys	Pro	Ser	Pro	Ala	Pro	Asn	Thr	Asp	Arg	Pro	Ile	Ser	Leu	Ser
2100				2105				2110							
Asn	Glu	Lys	Asp	Phe	Val	Val	Arg	Gln	Arg	Arg	Gly	Lys	Glu	Ser	Leu



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Gly Lys Gln Leu Leu Pro Leu Ser Ser Ser Val His Ser Ser Val Gly		
	50	55 60
Gln Val Thr Trp Gln Ser Thr Gly Glu Ala Ser Asn Leu Val Arg Met		
	65	70 75 80
Arg Asn Gln Ser Leu Gly Gln Ser Ala Pro Ser Leu Thr Ala Gly Leu		
	85	90 95
Lys Glu Leu Ser Leu Pro Arg Arg Gly Ser Phe Cys Arg Thr Ser Asn		
	100	105 110
Arg Lys Ser Leu Ile Val Thr Ser Ser Thr Ser Pro Thr Leu Pro Arg		
	115	120 125
Pro His Ser Pro Leu His Gly His Thr Gly Asn Ser Pro Leu Asp Ser		
	130	135 140
Pro Arg Asn Phe Ser Pro Asn Ala Pro Ala His Phe Ser Phe Val Pro		
	145	150 155 160
Ala Arg Arg Thr Asp Gly Arg Arg Trp Ser Leu Ala Ser Leu Pro Ser		
	165	170 175
Ser Gly Tyr Gly Thr Asn Thr Pro Ser Ser Thr Val Ser Ser Ser Cys		
	180	185 190
Ser Ser Gln Glu Lys Leu His Gln Leu Pro Phe Gln Pro Thr Ala Asp		
	195	200 205
Glu Leu His Phe Leu Thr Lys His Phe Ser Thr Glu Asn Val Pro Asp		
	210	215 220
Glu Glu Gly Arg Arg Ser Pro Arg Met Arg Pro Arg Ser Arg Ser Leu		
	225	230 235 240

Ser Pro Gly Arg Ser Pro Val Ser Phe Asp Ser Glu Ile Ile Met Met  
 245 250 255  
 Asn His Val Tyr Lys Glu Arg Phe Pro Lys Ala Thr Ala Gln Met Glu  
 260 265 270  
 Glu Arg Pro Ser Leu Thr Phe Ile Ser Ser Asn Thr Pro Asp Ser Val  
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 Leu Pro Leu Ala Asp Gly Ala Leu Ser Phe Ile His His Gln Val Ile  
 290 295 300  
 Glu Met Ala Arg Asp Cys Leu Asp Lys Ser Arg Ser Gly Leu Ile Thr  
 305 310 315 320  
 Ser His Tyr Phe Tyr Glu Leu Gln Glu Asn Leu Glu Lys Leu Leu Gln  
 325 330 335  
 Asp Ala His Glu Arg Ser Glu Ser Ser Asp Val Ala Phe Val Ile Gln  
 340 345 350  
 Leu Val Lys Lys Leu Met Ile Ile Ile Ala Arg Pro Ala Arg Leu Leu  
 355 360 365  
 Glu Cys Leu Glu Phe Asp Pro Glu Glu Phe Tyr His Leu Leu Glu Ala  
 370 375 380  
 Ala Glu Gly His Ala Lys Glu Gly His Gly Ile Lys Cys Asp Ile Pro  
 385 390 395 400  
 Arg Tyr Ile Val Ser Gln Leu Gly Leu Thr Arg Asp Pro Leu Glu Glu  
 405 410 415  
 Met Ala Gln Leu Ser Ser Tyr Asp Ser Pro Asp Thr Pro Glu Thr Asp  
 420 425 430  
 Asp Ser Val Glu Gly Arg Gly Val Ser Gln Pro Ser Gln Lys Thr Pro  
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 Ser Glu Glu Asp Phe Glu Thr Ile Lys Leu Ile Ser Asn Gly Ala Tyr  
 450 455 460  
 Gly Ala Val Phe Leu Val Arg His Lys Ser Thr Arg Gln Arg Phe Ala  
 465 470 475 480  
 Met Lys Lys Ile Asn Lys Gln Asn Leu Ile Leu Arg Asn Gln Ile Gln  
 485 490 495  
 Gln Ala Phe Val Glu Arg Asp Ile Leu Thr Phe Ala Glu Asn Pro Phe  
 500 505 510  
 Val Val Ser Met Phe Cys Ser Phe Glu Thr Lys Arg His Leu Cys Met  
 515 520 525  
 Val Met Glu Tyr Val Glu Gly Gly Asp Cys Ala Thr Leu Leu Lys Asn  
 530 535 540

Ile	Gly	Ala	Leu	Pro	Val	Asp	Met	Val	Arg	Leu	Tyr	Phe	Ala	Glu	Thr	545	550	555	560
Val	Leu	Ala	Leu	Glu	Tyr	Leu	His	Asn	Tyr	Gly	Ile	Val	His	Arg	Asp	565	570	575	
Leu	Lys	Pro	Asp	Asn	Leu	Leu	Ile	Thr	Ser	Met	Gly	His	Ile	Lys	Leu	580	585	590	
Thr	Asp	Phe	Gly	Leu	Ser	Lys	Ile	Gly	Leu	Met	Ser	Leu	Thr	Thr	Asn	595	600	605	
Leu	Tyr	Glu	Gly	His	Ile	Glu	Lys	Asp	Ala	Arg	Glu	Phe	Leu	Asp	Lys	610	615	620	
Gln	Val	Cys	Gly	Thr	Pro	Glu	Tyr	Ile	Ala	Pro	Glu	Val	Ile	Leu	Arg	625	630	635	640
Gln	Gly	Tyr	Gly	Lys	Pro	Val	Asp	Trp	Trp	Ala	Met	Gly	Ile	Ile	Leu	645	650	655	
Tyr	Glu	Phe	Leu	Val	Gly	Cys	Val	Pro	Phe	Phe	Gly	Asp	Thr	Pro	Glu	660	665	670	
Glu	Leu	Phe	Gly	Gln	Val	Ile	Ser	Asp	Glu	Ile	Val	Trp	Pro	Glu	Gly	675	680	685	
Asp	Asp	Ala	Leu	Pro	Pro	Asp	Ala	Gln	Asp	Leu	Thr	Ser	Lys	Leu	Leu	690	695	700	
His	Gln	Asn	Pro	Leu	Glu	Arg	Leu	Gly	Thr	Ser	Ser	Ala	Tyr	Glu	Val	705	710	715	720
Lys	Gln	His	Pro	Phe	Phe	Met	Gly	Leu	Asp	Trp	Thr	Gly	Leu	Leu	Arg	725	730	735	
Gln	Lys	Ala	Glu	Phe	Ile	Pro	Gln	Leu	Glu	Ser	Glu	Asp	Asp	Thr	Ser	740	745	750	
Tyr	Phe	Asp	Thr	Arg	Ser	Glu	Arg	Tyr	His	His	Val	Asp	Ser	Glu	Asp	755	760	765	
Glu	Glu	Glu	Val	Ser	Glu	Asp	Gly	Cys	Leu	Glu	Ile	Arg	Gln	Phe	Ser	770	775	780	
Ser	Cys	Ser	Pro	Arg	Phe	Ser	Lys	Val	Tyr	Ser	Ser	Met	Glu	Arg	Leu	785	790	795	800
Ser	Leu	Leu	Glu	Glu	Arg	Arg	Thr	Pro	Pro	Pro	Thr	Lys	Arg	Ser	Leu	805	810	815	
Ser	Glu	Glu	Lys	Glu	Asp	His	Ser	Asp	Gly	Leu	Ala	Gly	Leu	Lys	Gly	820	825	830	
Arg	Asp	Arg	Ser	Trp	Val	Ile	Gly	Ser	Pro	Glu	Ile	Leu	Arg	Lys	Arg	835	840	845	

Leu Ser Val Ser Glu Ser Ser His Thr Glu Ser Asp Ser Ser Pro Pro  
 850 855 860

Met Thr Val Arg His Arg Cys Ser Gly Leu Pro Asp Gly Pro His Cys  
 865 870 875 880

Pro Glu Glu Thr Ser Ser Thr Pro Arg Lys Gln Gln Gln Glu Gly Ile  
 885 890 895

Trp Val Leu Ile Pro Pro Ser Gly Glu Gly Ser Ser Arg Pro Val Pro  
 900 905 910

Glu Arg Pro Leu Glu Arg Gln Leu Lys Leu Asp Glu Glu Pro Pro Gly  
 915 920 925

Gln Ser Ser Arg Cys Cys Pro Ala Leu Glu Thr Arg Gly Arg Gly Thr  
 930 935 940

Pro Gln Leu Ala Glu Glu Ala Thr Ala Lys Ala Ile Ser Asp Leu Ala  
 945 950 955 960

Val Arg Arg Ala Arg His Arg Leu Leu Ser Gly Asp Ser Ile Glu Lys  
 965 970 975

Arg Thr Thr Arg Pro Val Asn Lys Val Ile Lys Ser Ala Ser Ala Thr  
 980 985 990

Ala Leu Ser Leu Leu Ile Pro Ser Glu His His Ala Cys Ser Pro Leu  
 995 1000 1005

Ala Ser Pro Met Ser Pro His Ser Gln Ser Ser Asn Pro Ser Ser Arg  
 1010 1015 1020

Asp Ser Ser Pro Ser Arg Asp Phe Leu Pro Ala Leu Gly Ser Leu Arg  
 1025 1030 1035 1040

Pro Pro Ile Ile Ile His Arg Ala Gly Lys Lys Tyr Gly Phe Thr Leu  
 1045 1050 1055

Arg Ala Ile Arg Val Tyr Met Gly Asp Thr Asp Val Tyr Thr Val His  
 1060 1065 1070

His Met Val Trp His Val Glu Asp Gly Gly Pro Ala Ser Glu Ala Gly  
 1075 1080 1085

Leu Arg Gln Gly Asp Leu Ile Thr His Val Asn Gly Glu Pro Val His  
 1090 1095 1100

Gly Leu Val His Thr Glu Val Val Glu Leu Val Leu Lys Ser Gly Asn  
 1105 1110 1115 1120

Lys Val Ser Ile Ser Thr Thr Pro Leu Glu Asn Thr Ser Ile Lys Val  
 1125 1130 1135

Gly Pro Ala Arg Lys Gly Ser Tyr Lys Ala Lys Met Ala Arg Arg Ser  
 1140 1145 1150

Lys Arg Ser Lys Gly Lys Asp Gly Gln Glu Ser Arg Lys Arg Ser Ser  
 1155 1160 1165  
 Leu Phe Arg Lys Ile Thr Lys Gln Ala Ser Leu Leu His Thr Ser Arg  
 1170 1175 1180  
 Ser Leu Ser Ser Leu Asn Arg Ser Leu Ser Ser Gly Glu Ser Gly Pro  
 1185 1190 1195 1200  
 Gly Ser Pro Thr His Ser His Ser Leu Ser Pro Arg Ser Pro Pro Gln  
 1205 1210 1215  
 Gly Tyr Arg Val Ala Pro Asp Ala Val His Ser Val Gly Gly Asn Ser  
 1220 1225 1230  
 Ser Gln Ser Ser Ser Pro Ser Ser Ser Val Pro Ser Ser Pro Ala Gly  
 1235 1240 1245  
 Ser Gly His Thr Arg Pro Ser Ser Leu His Gly Leu Ala Pro Lys Leu  
 1250 1255 1260  
 Gln Arg Gln Tyr Arg Ser Pro Arg Arg Lys Ser Ala Gly Ser Ile Pro  
 1265 1270 1275 1280  
 Leu Ser Pro Leu Ala His Thr Pro Ser Pro Pro Ala Thr Ala Ala Ser  
 1285 1290 1295  
 Pro Gln Arg Ser Pro Ser Pro Leu Ser Gly His Gly Ser Gln Ser Phe  
 1300 1305 1310  
 Pro Thr Lys Leu His Leu Ser Pro Pro Leu Gly Arg Gln Leu Ser Arg  
 1315 1320 1325  
 Pro Lys Ser Ala Glu Pro Pro Arg Ser Pro Leu Leu Lys Arg Val Gln  
 1330 1335 1340  
 Ser Ala Glu Lys Leu Ala Ala Ala Leu Ala Ala Ala Glu Lys Lys Leu  
 1345 1350 1355 1360  
 Ala Pro Ser Arg Lys His Ser Leu Asp Leu Pro His Gly Glu Leu Lys  
 1365 1370 1375  
 Lys Glu Leu Thr Pro Arg Glu Ala Ser Pro Leu Glu Val Val Gly Thr  
 1380 1385 1390  
 Arg Ser Val Leu Ser Gly Lys Gly Pro Leu Pro Gly Lys Gly Val Leu  
 1395 1400 1405  
 Gln Pro Ala Pro Ser Arg Ala Leu Gly Thr Leu Arg Gln Asp Arg Ala  
 1410 1415 1420  
 Glu Arg Arg Glu Ser Leu Gln Lys Gln Glu Ala Ile Arg Glu Val Asp  
 1425 1430 1435 1440  
 Ser Ser Glu Asp Asp Thr Asp Glu Glu Pro Glu Asn Ser Gln Ala Thr  
 1445 1450 1455

Gln Glu Pro Arg Leu Ser Pro His Pro Glu Ala Ser His Asn Leu Leu  
 1460 1465 1470  
 Pro Lys Gly Ser Gly Glu Gly Thr Glu Glu Asp Thr Phe Leu His Arg  
 1475 1480 1485  
 Asp Leu Lys Lys Gln Gly Pro Val Leu Ser Gly Leu Val Thr Gly Ala  
 1490 1495 1500  
 Thr Leu Gly Ser Pro Arg Val Asp Val Pro Gly Leu Ser Pro Arg Lys  
 1505 1510 1515 1520  
 Val Ser Arg Pro Gln Ala Phe Glu Glu Ala Thr Asn Pro Leu Gln Val  
 1525 1530 1535  
 Pro Ser Leu Ser Arg Ser Gly Pro Thr Ser Pro Thr Pro Ser Glu Gly  
 1540 1545 1550  
 Cys Trp Lys Ala Gln His Leu His Thr Gln Ala Leu Thr Ala Leu Cys  
 1555 1560 1565  
 Pro Ser Phe Ser Glu Leu Thr Pro Thr Gly Cys Ser Ala Ala Thr Ser  
 1570 1575 1580  
 Thr Ser Gly Lys Pro Gly Thr Trp Ser Trp Lys Phe Leu Ile Glu Gly  
 1585 1590 1595 1600  
 Pro Asp Arg Ala Ser Thr Asn Lys Thr Ile Thr Arg Lys Gly Glu Pro  
 1605 1610 1615  
 Ala Asn Ser Gln Asp Thr Asn Thr Thr Val Pro Asn Leu Leu Lys Asn  
 1620 1625 1630  
 Leu Ser Pro Glu Glu Glu Lys Pro Gln Pro Pro Ser Val Pro Gly Leu  
 1635 1640 1645  
 Thr His Pro Leu Leu Glu Val Pro Ser Gln Asn Trp Pro Trp Glu Ser  
 1650 1655 1660  
 Glu Cys Glu Gln Met Glu Lys Glu Glu Pro Ser Leu Ser Ile Thr Glu  
 1665 1670 1675 1680  
 Val Pro Asp Ser Ser Gly Asp Arg Arg Gln Asp Ile Pro Cys Arg Ala  
 1685 1690 1695  
 His Pro Leu Ser Pro Glu Thr Arg Pro Ser Leu Leu Trp Lys Ser Gln  
 1700 1705 1710  
 Glu Leu Gly Gly Gln Gln Asp His Gln Asp Leu Ala Leu Thr Ser Asp  
 1715 1720 1725  
 Glu Leu Leu Lys Gln Thr  
 1730

<210> 83  
 <211> 256

<212> PRT

<213> Homo sapiens

<400> 83

Tyr	Glu	Leu	Leu	Glu	Val	Leu	Gly	Lys	Gly	Ala	Phe	Gly	Lys	Val	Tyr
1				5					10					15	
Leu	Ala	Arg	Asp	Lys	Lys	Thr	Gly	Lys	Leu	Val	Ala	Ile	Lys	Val	Ile
			20					25					30		
Lys	Lys	Glu	Lys	Leu	Lys	Lys	Lys	Lys	Arg	Glu	Arg	Ile	Leu	Arg	Glu
		35					40					45			
Ile	Lys	Ile	Leu	Lys	Lys	Leu	Asp	His	Pro	Asn	Ile	Val	Lys	Leu	Tyr
	50					55					60				
Asp	Val	Phe	Glu	Asp	Asp	Asp	Lys	Leu	Tyr	Leu	Val	Met	Glu	Tyr	Cys
65					70					75					80
Glu	Gly	Gly	Asp	Leu	Phe	Asp	Leu	Leu	Lys	Lys	Arg	Gly	Arg	Leu	Ser
				85					90					95	
Glu	Asp	Glu	Ala	Arg	Phe	Tyr	Ala	Arg	Gln	Ile	Leu	Ser	Ala	Leu	Glu
			100					105					110		
Tyr	Leu	His	Ser	Gln	Gly	Ile	Ile	His	Arg	Asp	Leu	Lys	Pro	Glu	Asn
		115					120					125			
Ile	Leu	Leu	Asp	Ser	Asp	Gly	His	Val	Lys	Leu	Ala	Asp	Phe	Gly	Leu
	130					135					140				
Ala	Lys	Gln	Leu	Asp	Ser	Gly	Gly	Thr	Leu	Leu	Thr	Thr	Phe	Val	Gly
145					150					155					160
Thr	Pro	Glu	Tyr	Met	Ala	Pro	Glu	Val	Leu	Leu	Gly	Lys	Gly	Tyr	Gly
				165					170					175	
Lys	Ala	Val	Asp	Ile	Trp	Ser	Leu	Gly	Val	Ile	Leu	Tyr	Glu	Leu	Leu
			180					185					190		
Thr	Gly	Lys	Pro	Pro	Phe	Pro	Gly	Asp	Asp	Gln	Leu	Leu	Ala	Leu	Phe
		195					200					205			
Lys	Lys	Ile	Gly	Lys	Pro	Pro	Pro	Pro	Phe	Pro	Pro	Pro	Glu	Trp	Lys
	210					215					220				
Ile	Ser	Pro	Glu	Ala	Lys	Asp	Leu	Ile	Lys	Lys	Leu	Leu	Val	Lys	Asp
225					230					235					240
Pro	Glu	Lys	Arg	Leu	Thr	Ala	Glu	Glu	Ala	Leu	Glu	His	Pro	Phe	Phe
				245					250					255	

<210> 84

<211> 256

<212> PRT

<213> Homo sapiens

<400> 84

Tyr	Glu	Leu	Gly	Glu	Lys	Leu	Gly	Ser	Gly	Ala	Phe	Gly	Lys	Val	Tyr
1				5					10					15	
Lys	Gly	Lys	His	Lys	Asp	Thr	Gly	Glu	Ile	Val	Ala	Ile	Lys	Ile	Leu
			20					25					30		
Lys	Lys	Arg	Ser	Leu	Ser	Glu	Lys	Lys	Lys	Arg	Phe	Leu	Arg	Glu	Ile
		35					40					45			
Gln	Ile	Leu	Arg	Arg	Leu	Ser	His	Pro	Asn	Ile	Val	Arg	Leu	Leu	Gly
	50					55					60				
Val	Phe	Glu	Glu	Asp	Asp	His	Leu	Tyr	Leu	Val	Met	Glu	Tyr	Met	Glu
65					70					75					80
Gly	Gly	Asp	Leu	Phe	Asp	Tyr	Leu	Arg	Arg	Asn	Gly	Leu	Leu	Leu	Ser
				85					90					95	
Glu	Lys	Glu	Ala	Lys	Lys	Ile	Ala	Leu	Gln	Ile	Leu	Arg	Gly	Leu	Glu
			100					105					110		
Tyr	Leu	His	Ser	Arg	Gly	Ile	Val	His	Arg	Asp	Leu	Lys	Pro	Glu	Asn
		115					120					125			
Ile	Leu	Leu	Asp	Glu	Asn	Gly	Thr	Val	Lys	Ile	Ala	Asp	Phe	Gly	Leu
	130					135					140				
Ala	Arg	Lys	Leu	Glu	Ser	Ser	Ser	Tyr	Glu	Lys	Leu	Thr	Thr	Phe	Val
145					150					155					160
Gly	Thr	Pro	Glu	Tyr	Met	Ala	Pro	Glu	Val	Leu	Glu	Gly	Arg	Gly	Tyr
			165					170						175	
Ser	Ser	Lys	Val	Asp	Val	Trp	Ser	Leu	Gly	Val	Ile	Leu	Tyr	Glu	Leu
		180						185					190		
Leu	Thr	Gly	Lys	Leu	Pro	Phe	Pro	Gly	Ile	Asp	Pro	Leu	Glu	Glu	Leu
		195					200					205			
Phe	Arg	Ile	Lys	Glu	Arg	Pro	Arg	Leu	Arg	Leu	Pro	Leu	Pro	Pro	Asn
	210					215					220				
Cys	Ser	Glu	Glu	Leu	Lys	Asp	Leu	Ile	Lys	Lys	Cys	Leu	Asn	Lys	Asp
225					230					235					240
Pro	Glu	Lys	Arg	Pro	Thr	Ala	Lys	Glu	Ile	Leu	Asn	His	Pro	Trp	Phe
				245					250						255



<210> 85  
 <211> 244  
 <212> PRT  
 <213> Homo sapiens

<400> 85  
 Lys Lys Leu Gly Glu Gly Ala Phe Gly Glu Val Tyr Lys Gly Thr Leu  
   1                  5                  10                  15  
 Lys Gly Lys Gly Gly Val Glu Val Glu Val Ala Val Lys Thr Leu Lys  
           20                  25                  30  
 Glu Asp Ala Ser Glu Gln Gln Ile Glu Glu Phe Leu Arg Glu Ala Arg  
           35                  40                  45  
 Leu Met Arg Lys Leu Asp His Pro Asn Ile Val Lys Leu Leu Gly Val  
       50                  55                  60  
 Cys Thr Glu Glu Glu Pro Leu Met Ile Val Met Glu Tyr Met Glu Gly  
   65                  70                  75                  80  
 Gly Asp Leu Leu Asp Tyr Leu Arg Lys Asn Arg Pro Lys Glu Leu Ser  
                   85                  90                  95  
 Leu Ser Asp Leu Leu Ser Phe Ala Leu Gln Ile Ala Arg Gly Met Glu  
           100                  105                  110  
 Tyr Leu Glu Ser Lys Asn Phe Val His Arg Asp Leu Ala Ala Arg Asn  
       115                  120                  125  
 Cys Leu Val Gly Glu Asn Lys Thr Val Lys Ile Ala Asp Phe Gly Leu  
   130                  135                  140  
 Ala Arg Asp Leu Tyr Asp Asp Asp Tyr Tyr Arg Lys Lys Lys Ser Pro  
  145                  150                  155                  160  
 Arg Leu Pro Ile Arg Trp Met Ala Pro Glu Ser Leu Lys Asp Gly Lys  
           165                  170                  175  
 Phe Thr Ser Lys Ser Asp Val Trp Ser Phe Gly Val Leu Leu Trp Glu  
           180                  185                  190  
 Ile Phe Thr Leu Gly Glu Ser Pro Tyr Pro Gly Met Ser Asn Glu Glu  
       195                  200                  205  
 Val Leu Glu Tyr Leu Lys Lys Gly Tyr Arg Leu Pro Gln Pro Pro Asn  
   210                  215                  220  
 Cys Pro Asp Glu Ile Tyr Asp Leu Met Leu Gln Cys Trp Ala Glu Asp  
  225                  230                  235                  240  
 Pro Glu Asp Arg

<210> 86  
 <211> 77

<212> PRT

<213> Homo sapiens

<400> 86

Val Glu Leu Glu Lys Gly Gly Gly Gly Leu Gly Phe Ser Leu Val Gly  
1 5 10 15

Gly Lys Asp Ser Gly Asp Gly Gly Val Val Val Ser Ser Val Val Pro  
20 25 30

Gly Ser Pro Ala Ala Lys Ala Gly Leu Lys Pro Gly Asp Val Ile Leu  
35 40 45

Glu Val Asn Gly Thr Ser Val Glu Gly Leu Thr His Leu Glu Ala Val  
50 55 60

Asp Leu Leu Lys Glu Ala Gly Gly Lys Val Thr Leu Thr  
65 70 75

<210> 87

<211> 78

<212> PRT

<213> Homo sapiens

<400> 87

Val Thr Leu Glu Arg Gln Gly Arg Gly Gly Leu Gly Phe Ser Leu Lys  
1 5 10 15

Gly Gly Ser Asp Lys Gly Asp Gln Gly Ile Val Val Ser Glu Val Leu  
20 25 30

Pro Gly Gly Ala Ala Glu Arg Gly Gly Leu Lys Glu Gly Asp Arg Ile  
35 40 45

Leu Glu Ile Asn Gly Gln Asp Val Glu Asn Val Thr His Glu Arg Ala  
50 55 60

Val Leu Ala Leu Lys Gly Ser Gly Gly Glu Val Thr Leu Thr  
65 70 75

<210> 88

<211> 348

<212> PRT

<213> Rattus norvegicus

<400> 88

Met Val Leu Leu Ala Gln Gly Ala Cys Cys Ser Asn Gln Trp Leu Ala  
1 5 10 15

Ala Val Leu Leu Ser Leu Cys Ser Cys Leu Pro Ala Gly Gln Ser Val  
20 25 30

Asp Phe Pro Trp Ala Ala Val Asp Asn Met Leu Val Arg Lys Gly Asp  
35 40 45

Thr Ala Val Leu Arg Cys Tyr Leu Glu Asp Gly Ala Ser Lys Gly Ala  
 50 55 60  
 Trp Leu Asn Arg Ser Ser Ile Ile Phe Ala Gly Gly Asp Lys Trp Ser  
 65 70 75 80  
 Val Asp Pro Arg Val Ser Ile Ser Thr Leu Asn Lys Arg Asp Tyr Ser  
 85 90 95  
 Leu Gln Ile Gln Asn Val Asp Val Thr Asp Asp Gly Pro Tyr Thr Cys  
 100 105 110  
 Ser Val Gln Thr Gln His Thr Pro Arg Thr Met Gln Val His Leu Thr  
 115 120 125  
 Val Gln Val Pro Pro Lys Ile Tyr Asp Ile Ser Asn Asp Met Thr Ile  
 130 135 140  
 Asn Glu Gly Thr Asn Val Thr Leu Thr Cys Leu Ala Thr Gly Lys Pro  
 145 150 155 160  
 Glu Pro Ala Ile Ser Trp Arg His Ile Ser Pro Ser Ala Lys Pro Phe  
 165 170 175  
 Glu Asn Gly Gln Tyr Leu Asp Ile Tyr Gly Ile Thr Arg Asp Gln Ala  
 180 185 190  
 Gly Glu Tyr Glu Cys Ser Ala Glu Asn Asp Val Ser Phe Pro Asp Val  
 195 200 205  
 Lys Lys Val Arg Val Val Val Asn Phe Ala Pro Thr Ile Gln Glu Ile  
 210 215 220  
 Lys Ser Gly Thr Val Thr Pro Gly Arg Ser Gly Leu Ile Arg Cys Glu  
 225 230 235 240  
 Gly Ala Gly Val Pro Pro Pro Ala Phe Glu Trp Tyr Lys Gly Glu Lys  
 245 250 255  
 Arg Leu Phe Asn Gly Gln Gln Gly Ile Ile Ile Gln Asn Phe Ser Thr  
 260 265 270  
 Arg Ser Ile Leu Thr Val Thr Asn Val Thr Gln Glu His Phe Gly Asn  
 275 280 285  
 Tyr Thr Cys Val Ala Ala Asn Lys Leu Gly Thr Thr Asn Ala Ser Leu  
 290 295 300  
 Pro Leu Asn Pro Pro Ser Thr Ala Gln Tyr Gly Ile Thr Gly Ser Ala  
 305 310 315 320  
 Cys Asp Leu Phe Ser Cys Trp Ser Leu Ala Leu Thr Leu Ser Ser Val  
 325 330 335  
 Ile Ser Ile Phe Tyr Leu Lys Asn Ala Ile Leu Gln  
 340 345

<210> 89  
 <211> 352  
 <212> PRT  
 <213> Gallus gallus

<400> 89  
 Met Val Pro Leu Val Arg Gly Ala Gly Gly Ser His Gln Trp Leu Ala  
   1                  5                  10                  15  
 Ala Val Leu Leu Gly Leu Cys Cys Leu Leu Pro Ala Gly Arg Leu Ala  
                   20                  25                  30  
 Ala Pro Gly Gly Asp Phe Pro Gly Ala Ala Ala Asp Ser Leu Val Val  
           35                  40                  45  
 Arg Lys Gly Asp Thr Ala Val Leu Arg Cys Tyr Leu Glu Asp Gly Ala  
       50                  55                  60  
 Ser Lys Gly Ala Trp Leu Asn Arg Ser Ser Ile Ile Phe Ala Gly Ser  
   65                  70                  75                  80  
 Asp Lys Trp Ser Val Asp Pro Arg Val Ser Ile Ala Thr Ala Asn Arg  
                   85                  90                  95  
 Arg Glu Tyr Ser Leu Gln Ile Gln Asp Val Asp Val Thr Asp Asp Gly  
           100                  105                  110  
 Pro Tyr Thr Cys Ser Val Gln Thr Gln His Thr Pro Arg Thr Met Gln  
       115                  120                  125  
 Val His Leu Thr Val Gln Val Ser Pro Lys Ile Phe Arg Ile Ser Ser  
   130                  135                  140  
 Asp Ile Val Val Asn Glu Gly Ser Asn Val Thr Leu Val Cys Leu Ala  
 145                  150                  155                  160  
 Thr Gly Lys Pro Glu Pro Ser Ile Ser Trp Arg His Ile Ser Pro Ser  
           165                  170                  175  
 Ala Lys Pro Phe Glu Ser Gly Gln Tyr Leu Asp Ile Tyr Gly Ile Thr  
           180                  185                  190  
 Arg Asp Gln Ala Gly Glu Tyr Glu Cys Ser Ala Glu Asn Asp Val Ser  
       195                  200                  205  
 Val Pro Asp Val Lys Lys Val Lys Val Thr Val Asn Phe Ala Pro Thr  
       210                  215                  220  
 Ile Gln Glu Leu Lys Ser Ser Gly Val Met Leu Gly Gly Asn Gly Leu  
 225                  230                  235                  240  
 Ile Arg Cys Glu Gly Ala Gly Val Pro Ala Pro Val Phe Glu Trp Tyr  
           245                  250                  255  
 Arg Gly Glu Arg Lys Leu Ile Ser Gly Gln Gln Gly Ile Thr Ile Lys  
       260                  265                  270

Asn Tyr Ser Thr Arg Ser Leu Leu Thr Val Thr Asn Val Thr Glu Glu  
 275 280 285  
 His Phe Gly Asn Tyr Thr Cys Val Ala Ala Asn Lys Leu Gly Met Thr  
 290 295 300  
 Asn Ala Ser Leu Pro Leu Asn Pro Pro Ser Thr Ala Gln Tyr Gly Ile  
 305 310 315 320  
 Thr Gly Asp Ala Glu Val Leu Phe Ser Cys Trp Tyr Leu Val Leu Thr  
 325 330 335  
 Leu Ser Ser Leu Thr Ser Ile Phe Tyr Leu Lys Asn Ile Ile Leu His  
 340 345 350

<210> 90  
 <211> 261  
 <212> PRT  
 <213> Gallus gallus

<400> 90  
 Met Val Pro Leu Val Arg Gly Ala Gly Gly Ser His Gln Trp Leu Ala  
 1 5 10 15  
 Ala Val Leu Leu Gly Leu Cys Cys Leu Leu Pro Ala Gly Arg Leu Ala  
 20 25 30  
 Ala Pro Gly Gly Asp Phe Pro Gly Ala Ala Ala Asp Ser Leu Val Val  
 35 40 45  
 Arg Lys Gly Asp Thr Ala Val Leu Arg Cys Tyr Leu Glu Asp Gly Ala  
 50 55 60  
 Ser Lys Gly Ala Trp Leu Asn Arg Ser Ser Ile Ile Phe Ala Gly Ser  
 65 70 75 80  
 Asp Lys Trp Ser Val Asp Pro Arg Val Ser Ile Ala Thr Ala Asn Arg  
 85 90 95  
 Arg Glu Tyr Ser Leu Gln Ile Gln Asp Val Asp Val Thr Asp Asp Gly  
 100 105 110  
 Pro Tyr Thr Cys Ser Val Gln Thr Gln His Thr Pro Arg Thr Met Gln  
 115 120 125  
 Val His Leu Thr Val Gln Val Ser Pro Lys Ile Phe Arg Ile Ser Ser  
 130 135 140  
 Asp Ile Val Val Asn Glu Gly Ser Asn Val Thr Leu Val Cys Leu Ala  
 145 150 155 160  
 Thr Gly Lys Pro Glu Pro Ser Ile Ser Trp Arg His Ile Ser Pro Ser



Pro Val Ile Thr Trp Arg His Leu Thr Pro Leu Gly Arg Glu Phe Glu  
 165 170 175  
 Gly Glu Glu Glu Tyr Leu Glu Ile Leu Gly Ile Thr Arg Glu Gln Ser  
 180 185 190  
 Gly Lys Tyr Glu Cys Lys Ala Ala Asn Glu Val Ser Ser Ala Asp Val  
 195 200 205  
 Lys Gln Val Lys Val Thr Val Asn Tyr Pro Pro Thr Ile Thr Glu Ser  
 210 215 220  
 Lys Ser Asn Glu Ala Thr Thr Gly Arg Gln Ala Ser Leu Lys Cys Glu  
 225 230 235 240  
 Ala Ser Ala Val Pro Ala Pro Asp Phe Glu Trp Tyr Arg Asp Asp Thr  
 245 250 255  
 Arg Ile Asn Ser Ala Asn Gly Leu Glu Ile Lys Ser Thr Glu Gly Gln  
 260 265 270  
 Ser Ser Leu Thr Val Thr Asn Val Thr Glu Glu His Tyr Gly Asn Tyr  
 275 280 285  
 Thr Cys Val Ala Ala Asn Lys Leu Gly Val Thr Asn Ala Ser Leu Val  
 290 295 300  
 Leu Phe Arg Pro Gly Ser Val Arg Gly Ile Asn Gly Ser Ile Ser Leu  
 305 310 315 320  
 Ala Val Pro Leu Trp Leu Leu Ala Ala Ser Leu Phe Cys Leu Leu Ser  
 325 330 335

Lys Cys

<210> 92  
 <211> 338  
 <212> PRT  
 <213> Homo sapiens

<400> 92  
 Met Val Gly Arg Val Gln Pro Asp Arg Lys Gln Leu Pro Leu Val Leu  
 1 5 10 15  
 Leu Arg Leu Leu Cys Leu Leu Pro Thr Gly Leu Pro Val Arg Ser Val  
 20 25 30  
 Asp Phe Asn Arg Gly Thr Asp Asn Ile Thr Val Arg Gln Gly Asp Thr  
 35 40 45  
 Ala Ile Leu Arg Cys Val Leu Glu Asp Lys Asn Ser Lys Val Ala Trp  
 50 55 60  
 Leu Asn Arg Ser Gly Ile Ile Phe Ala Gly His Asp Lys Trp Ser Leu  
 65 70 75 80

Asp	Pro	Arg	Val	Glu	Leu	Glu	Lys	Arg	His	Ser	Leu	Glu	Tyr	Ser	Leu		
				85					90					95			
Arg	Ile	Gln	Lys	Val	Asp	Val	Tyr	Asp	Glu	Gly	Ser	Tyr	Thr	Cys	Ser		
			100					105						110			
Val	Gln	Thr	Gln	His	Glu	Pro	Lys	Thr	Ser	Gln	Val	Tyr	Leu	Ile	Val		
			115					120					125				
Gln	Val	Pro	Pro	Lys	Ile	Ser	Asn	Ile	Ser	Ser	Asp	Val	Thr	Val	Asn		
			130				135				140						
Glu	Gly	Ser	Asn	Val	Thr	Leu	Val	Cys	Met	Ala	Asn	Gly	Arg	Pro	Glu		
					150					155					160		
Pro	Val	Ile	Thr	Trp	Arg	His	Leu	Thr	Pro	Thr	Gly	Arg	Glu	Phe	Glu		
				165					170					175			
Gly	Glu	Glu	Glu	Tyr	Leu	Glu	Ile	Leu	Gly	Ile	Thr	Arg	Glu	Gln	Ser		
			180					185					190				
Gly	Lys	Tyr	Glu	Cys	Lys	Ala	Ala	Asn	Glu	Val	Ser	Ser	Ala	Asp	Val		
		195					200					205					
Lys	Gln	Val	Lys	Val	Thr	Val	Asn	Tyr	Pro	Pro	Thr	Ile	Thr	Glu	Ser		
		210				215					220						
Lys	Ser	Asn	Glu	Ala	Thr	Thr	Gly	Arg	Gln	Ala	Ser	Leu	Lys	Cys	Glu		
		225			230				235					240			
Ala	Ser	Ala	Val	Pro	Ala	Pro	Asp	Phe	Glu	Trp	Tyr	Arg	Asp	Asp	Thr		
			245						250				255				
Arg	Ile	Asn	Ser	Ala	Asn	Gly	Leu	Glu	Ile	Lys	Ser	Thr	Glu	Gly	Gln		
		260					265						270				
Ser	Ser	Leu	Thr	Val	Thr	Asn	Val	Thr	Glu	Glu	His	Tyr	Gly	Asn	Tyr		
		275				280					285						
Thr	Cys	Val	Ala	Ala	Asn	Lys	Leu	Gly	Val	Thr	Asn	Ala	Ser	Leu	Val		
		290			295						300						
Leu	Phe	Arg	Pro	Gly	Ser	Val	Arg	Gly	Ile	Asn	Gly	Ser	Ile	Ser	Leu		
				310					315					320			
Ala	Val	Pro	Leu	Trp	Leu	Leu	Ala	Ala	Ser	Leu	Leu	Cys	Leu	Leu	Ser		
			325						330				335				

Lys Cys

<210> 93  
 <211> 82  
 <212> PRT  
 <213> Homo sapiens



<400> 93

Pro Ser Val Thr Val Lys Glu Gly Glu Ser Val Thr Leu Ser Cys Glu  
1 5 10 15  
Ala Ser Gly Asn Pro Pro Pro Thr Val Thr Trp Tyr Lys Gln Gly Gly  
20 25 30  
Lys Leu Leu Ala Glu Ser Gly Arg Phe Ser Val Ser Arg Ser Gly Gly  
35 40 45  
Asn Ser Thr Leu Thr Ile Ser Asn Val Thr Pro Glu Asp Ser Gly Thr  
50 55 60  
Tyr Thr Cys Ala Ala Thr Asn Ser Ser Gly Ser Ala Ser Ser Gly Thr  
65 70 75 80

Thr Leu

<210> 94

<211> 63

<212> PRT

<213> Homo sapiens

<400> 94

Leu Glu Gly Glu Ser Val Thr Leu Thr Cys Pro Ala Ser Gly Asp Pro  
1 5 10 15  
Val Pro Asn Ile Thr Trp Leu Lys Asp Gly Lys Pro Leu Pro Glu Ser  
20 25 30  
Arg Val Val Ala Ser Gly Ser Thr Leu Thr Ile Lys Asn Val Ser Leu  
35 40 45  
Glu Asp Ser Gly Leu Tyr Thr Cys Val Ala Arg Asn Ser Val Gly  
50 55 60

<210> 95

<211> 1066

<212> PRT

<213> Homo sapiens

<400> 95

Pro Leu Pro Tyr Trp Thr Ala Val Phe Glu Tyr Glu Ala Ala Gly Glu  
1 5 10 15  
Asp Glu Leu Thr Leu Arg Leu Gly Asp Val Val Glu Val Leu Ser Lys  
20 25 30  
Asp Ser Gln Val Ser Gly Asp Glu Gly Trp Trp Thr Gly Gln Leu Asn  
35 40 45  
Gln Arg Val Gly Ile Phe Pro Ser Asn Tyr Val Thr Pro Arg Ser Ala  
50 55 60

Phe	Ser	Ser	Arg	Cys	Gln	Pro	Gly	Gly	Glu	Asp	Pro	Ser	Cys	Tyr	Pro	
65					70					75					80	
Pro	Ile	Gln	Leu	Leu	Glu	Ile	Asp	Phe	Ala	Glu	Leu	Thr	Leu	Glu	Glu	
				85					90					95		
Ile	Ile	Gly	Ile	Gly	Gly	Phe	Gly	Lys	Val	Tyr	Arg	Ala	Phe	Trp	Ile	
			100					105					110			
Gly	Asp	Glu	Val	Ala	Val	Lys	Ala	Ala	Arg	His	Asp	Pro	Asp	Glu	Asp	
		115					120					125				
Ile	Ser	Gln	Thr	Ile	Glu	Asn	Val	Arg	Gln	Glu	Ala	Lys	Leu	Phe	Ala	
	130					135					140					
Met	Leu	Lys	His	Pro	Asn	Ile	Ile	Ala	Leu	Arg	Gly	Val	Cys	Leu	Lys	
145					150					155					160	
Glu	Pro	Asn	Leu	Cys	Leu	Val	Met	Glu	Phe	Ala	Arg	Gly	Gly	Pro	Leu	
				165					170					175		
Asn	Arg	Val	Leu	Ser	Gly	Lys	Arg	Ile	Pro	Pro	Asp	Ile	Leu	Val	Asn	
			180					185					190			
Trp	Ala	Val	Gln	Ile	Ala	Arg	Gly	Met	Asn	Tyr	Leu	His	Asp	Glu	Ala	
		195					200					205				
Ile	Val	Pro	Ile	Ile	His	Arg	Asp	Leu	Lys	Ser	Ser	Asn	Ile	Leu	Ile	
	210					215					220					
Leu	Gln	Lys	Val	Glu	Asn	Gly	Asp	Leu	Ser	Asn	Lys	Ile	Leu	Lys	Ile	
225					230					235					240	
Thr	Asp	Phe	Gly	Leu	Ala	Arg	Glu	Trp	His	Arg	Thr	Thr	Lys	Met	Ser	
				245					250					255		
Ala	Ala	Gly	Thr	Tyr	Ala	Trp	Met	Ala	Pro	Glu	Val	Ile	Arg	Ala	Ser	
			260					265					270			
Met	Phe	Ser	Lys	Gly	Ser	Asp	Val	Trp	Ser	Tyr	Gly	Val	Leu	Leu	Trp	
		275					280					285				
Glu	Leu	Leu	Thr	Gly	Glu	Val	Pro	Phe	Arg	Gly	Ile	Asp	Gly	Leu	Ala	
	290					295					300					
Val	Ala	Tyr	Gly	Val	Ala	Met	Asn	Lys	Leu	Ala	Leu	Pro	Ile	Pro	Ser	
305					310					315					320	
Thr	Cys	Pro	Glu	Pro	Phe	Ala	Lys	Leu	Met	Glu	Asp	Cys	Trp	Asn	Pro	
				325					330					335		
Asp	Pro	His	Ser	Arg	Pro	Ser	Phe	Thr	Asn	Ile	Leu	Asp	Gln	Leu	Thr	
			340					345					350			
Thr	Ile	Glu	Glu	Ser	Gly	Phe	Phe	Glu	Met	Pro	Lys	Asp	Ser	Phe	His	
		355					360					365				

Cys	Leu	Gln	Asp	Asn	Trp	Lys	His	Glu	Ile	Gln	Glu	Met	Phe	Asp	Gln	370	375	380	
Leu	Arg	Ala	Lys	Glu	Lys	Glu	Leu	Arg	Thr	Trp	Glu	Glu	Glu	Leu	Thr	385	390	395	400
Arg	Ala	Ala	Leu	Gln	Gln	Lys	Asn	Gln	Glu	Glu	Leu	Leu	Arg	Arg	Arg	405	410	415	
Glu	Gln	Glu	Leu	Ala	Glu	Arg	Glu	Ile	Asp	Ile	Leu	Glu	Arg	Glu	Leu	420	425	430	
Asn	Ile	Ile	Ile	His	Gln	Leu	Cys	Gln	Glu	Lys	Pro	Arg	Val	Lys	Lys	435	440	445	
Arg	Lys	Gly	Lys	Phe	Arg	Lys	Ser	Arg	Leu	Lys	Leu	Lys	Asp	Gly	Asn	450	455	460	
Arg	Ile	Ser	Leu	Pro	Ser	Asp	Phe	Gln	His	Lys	Phe	Thr	Val	Gln	Ala	465	470	475	480
Ser	Pro	Thr	Met	Asp	Lys	Arg	Lys	Ser	Leu	Ile	Asn	Ser	Arg	Ser	Ser	485	490	495	
Pro	Pro	Ala	Ser	Pro	Thr	Ile	Ile	Pro	Arg	Leu	Arg	Ala	Ile	Gln	Leu	500	505	510	
Thr	Pro	Gly	Glu	Ser	Ser	Lys	Thr	Trp	Gly	Arg	Ser	Ser	Val	Val	Pro	515	520	525	
Lys	Glu	Glu	Gly	Glu	Glu	Glu	Glu	Lys	Arg	Ala	Pro	Lys	Lys	Lys	Gly	530	535	540	
Arg	Thr	Trp	Gly	Pro	Gly	Thr	Leu	Gly	Gln	Lys	Glu	Leu	Ala	Ser	Gly	545	550	555	560
Asp	Glu	Gly	Ser	Pro	Gln	Arg	Arg	Glu	Lys	Ala	Asn	Gly	Leu	Ser	Thr	565	570	575	
Pro	Ser	Glu	Ser	Pro	His	Phe	His	Leu	Gly	Leu	Lys	Ser	Leu	Val	Asp	580	585	590	
Gly	Tyr	Lys	Gln	Trp	Ser	Ser	Ser	Ala	Pro	Asn	Leu	Val	Lys	Gly	Pro	595	600	605	
Arg	Ser	Ser	Pro	Ala	Leu	Pro	Gly	Phe	Thr	Ser	Leu	Met	Glu	Met	Ala	610	615	620	
Leu	Leu	Ala	Ala	Ser	Trp	Val	Val	Pro	Ile	Asp	Ile	Glu	Glu	Asp	Glu	625	630	635	640
Asp	Ser	Glu	Gly	Pro	Gly	Ser	Gly	Glu	Ser	Arg	Leu	Gln	His	Ser	Pro	645	650	655	
Ser	Gln	Ser	Tyr	Leu	Cys	Ile	Pro	Phe	Pro	Arg	Gly	Glu	Asp	Gly	Asp	660	665	670	

Gly	Pro	Ser	Ser	Asp	Gly	Ile	His	Glu	Glu	Pro	Thr	Pro	Val	Asn	Ser	675	680	685
Ala	Thr	Ser	Thr	Pro	Gln	Leu	Thr	Pro	Thr	Asn	Ser	Leu	Lys	Arg	Gly	690	695	700
Gly	Ala	His	His	Arg	Arg	Cys	Glu	Val	Ala	Leu	Leu	Gly	Cys	Gly	Ala	705	710	715
Val	Leu	Ala	Ala	Thr	Gly	Leu	Gly	Phe	Asp	Leu	Leu	Glu	Ala	Gly	Lys	725	730	735
Cys	Gln	Leu	Leu	Pro	Leu	Glu	Glu	Pro	Glu	Pro	Pro	Ala	Arg	Glu	Glu	740	745	750
Lys	Lys	Arg	Arg	Glu	Gly	Leu	Phe	Gln	Arg	Ser	Ser	Arg	Pro	Arg	Arg	755	760	765
Ser	Thr	Ser	Pro	Pro	Ser	Arg	Lys	Leu	Phe	Lys	Lys	Glu	Glu	Pro	Met	770	775	780
Leu	Leu	Leu	Gly	Asp	Pro	Ser	Ala	Ser	Leu	Thr	Leu	Leu	Ser	Leu	Ser	785	790	795
Ser	Ile	Ser	Glu	Cys	Asn	Ser	Thr	Arg	Ser	Leu	Leu	Arg	Ser	Asp	Ser	805	810	815
Asp	Glu	Ile	Val	Val	Tyr	Glu	Met	Pro	Val	Ser	Pro	Val	Glu	Ala	Pro	820	825	830
Pro	Leu	Ser	Pro	Cys	Thr	His	Asn	Pro	Leu	Val	Asn	Val	Arg	Val	Glu	835	840	845
Arg	Phe	Lys	Arg	Asp	Pro	Asn	Gln	Ser	Leu	Thr	Pro	Thr	His	Val	Thr	850	855	860
Leu	Thr	Thr	Pro	Ser	Gln	Pro	Ser	Ser	His	Arg	Arg	Thr	Pro	Ser	Asp	865	870	875
Gly	Ala	Leu	Lys	Pro	Glu	Thr	Leu	Leu	Ala	Ser	Arg	Ser	Pro	Ser	Ser	885	890	895
Asn	Gly	Leu	Ser	Pro	Ser	Pro	Gly	Ala	Gly	Met	Leu	Lys	Thr	Pro	Ser	900	905	910
Pro	Ser	Arg	Asp	Pro	Gly	Glu	Phe	Pro	Arg	Leu	Pro	Asp	Pro	Asn	Val	915	920	925
Val	Phe	Pro	Pro	Thr	Pro	Arg	Arg	Trp	Asn	Thr	Gln	Gln	Asp	Ser	Thr	930	935	940
Leu	Glu	Arg	Pro	Lys	Thr	Leu	Glu	Phe	Leu	Pro	Arg	Pro	Arg	Pro	Ser	945	950	955
Ala	Asn	Arg	Gln	Arg	Leu	Asp	Pro	Trp	Trp	Phe	Val	Ser	Pro	Ser	His	965	970	975

Ala Arg Ser Thr Ser Pro Ala Asn Ser Ser Ser Thr Glu Thr Pro Ser  
980 985 990

Asn Leu Asp Ser Cys Phe Ala Ser Ser Ser Ser Thr Val Glu Glu Arg  
995 1000 1005

Pro Gly Leu Pro Ala Leu Leu Pro Phe Gln Ala Gly Pro Leu Pro Pro  
1010 1015 1020

Thr Glu Arg Thr Leu Leu Asp Leu Asp Ala Glu Gly Gln Ser Gln Asp  
1025 1030 1035 1040

Ser Thr Val Pro Leu Cys Arg Ala Glu Leu Asn Thr His Arg Pro Ala  
1045 1050 1055

Pro Tyr Glu Ile Gln Gln Glu Phe Trp Ser  
1060 1065

<210> 96  
<211> 922  
<212> PRT  
<213> Homo sapiens

<400> 96  
Met Leu Lys His Pro Asn Ile Ile Ala Leu Arg Gly Val Cys Leu Lys  
1 5 10 15

Glu Pro Asn Leu Cys Leu Val Met Glu Phe Ala Arg Gly Gly Pro Leu  
20 25 30

Asn Arg Val Leu Ser Gly Lys Arg Ile Pro Pro Asp Ile Leu Val Asn  
35 40 45

Trp Ala Val Gln Ile Ala Arg Gly Met Asn Tyr Leu His Asp Glu Ala  
50 55 60

Ile Val Pro Ile Ile His Arg Asp Leu Lys Ser Ser Asn Ile Leu Ile  
65 70 75 80

Leu Gln Lys Val Glu Asn Gly Asp Leu Ser Asn Lys Ile Leu Lys Ile  
85 90 95

Thr Asp Phe Gly Leu Ala Arg Glu Trp His Arg Thr Thr Lys Met Ser  
100 105 110

Ala Ala Gly Thr Tyr Ala Trp Met Ala Pro Glu Val Ile Arg Ala Ser  
115 120 125

Met Phe Ser Lys Gly Ser Asp Val Trp Ser Tyr Gly Val Leu Leu Trp  
130 135 140

Glu Leu Leu Thr Gly Glu Val Pro Phe Arg Gly Ile Asp Gly Leu Ala  
145 150 155 160

Val Ala Tyr Gly Val Ala Met Asn Lys Leu Ala Leu Pro Ile Pro Ser

165										170					175				
Thr	Cys	Pro	Glu	Pro	Phe	Ala	Lys	Leu	Met	Glu	Asp	Cys	Trp	Asn	Pro				
			180					185					190						
Asp	Pro	His	Ser	Arg	Pro	Ser	Phe	Thr	Asn	Ile	Leu	Asp	Gln	Leu	Thr				
		195					200					205							
Thr	Ile	Glu	Glu	Ser	Gly	Phe	Phe	Glu	Met	Pro	Lys	Asp	Ser	Phe	His				
	210					215					220								
Cys	Leu	Gln	Asp	Asn	Trp	Lys	His	Glu	Ile	Gln	Glu	Met	Phe	Asp	Gln				
225					230					235					240				
Leu	Arg	Ala	Lys	Glu	Lys	Glu	Leu	Arg	Thr	Trp	Glu	Glu	Glu	Leu	Thr				
				245				250						255					
Arg	Ala	Ala	Leu	Gln	Gln	Lys	Asn	Gln	Glu	Glu	Leu	Leu	Arg	Arg	Arg				
			260					265					270						
Glu	Gln	Glu	Leu	Ala	Glu	Arg	Glu	Ile	Asp	Ile	Leu	Glu	Arg	Glu	Leu				
		275					280					285							
Asn	Ile	Ile	Ile	His	Gln	Leu	Cys	Gln	Glu	Lys	Pro	Arg	Val	Lys	Lys				
	290					295					300								
Arg	Lys	Gly	Lys	Phe	Arg	Lys	Ser	Arg	Leu	Lys	Leu	Lys	Asp	Gly	Asn				
305					310					315					320				
Arg	Ile	Ser	Leu	Pro	Ser	Asp	Phe	Gln	His	Lys	Phe	Thr	Val	Gln	Ala				
				325					330					335					
Ser	Pro	Thr	Met	Asp	Lys	Arg	Lys	Ser	Leu	Ile	Asn	Ser	Arg	Ser	Ser				
			340					345					350						
Pro	Pro	Ala	Ser	Pro	Thr	Ile	Ile	Pro	Arg	Leu	Arg	Ala	Ile	Gln	Leu				
		355					360					365							
Thr	Pro	Gly	Glu	Ser	Ser	Lys	Thr	Trp	Gly	Arg	Ser	Ser	Val	Val	Pro				
	370					375					380								
Lys	Glu	Glu	Gly	Glu	Glu	Glu	Glu	Lys	Arg	Ala	Pro	Lys	Lys	Lys	Gly				
385					390					395					400				
Arg	Thr	Trp	Gly	Pro	Gly	Thr	Leu	Gly	Gln	Lys	Glu	Leu	Ala	Ser	Gly				
				405					410					415					
Asp	Glu	Gly	Ser	Pro	Gln	Arg	Arg	Glu	Lys	Ala	Asn	Gly	Leu	Ser	Thr				
			420					425					430						
Pro	Ser	Glu	Ser	Pro	His	Phe	His	Leu	Gly	Leu	Lys	Ser	Leu	Val	Asp				
		435					440					445							
Gly	Tyr	Lys	Gln	Trp	Ser	Ser	Ser	Ala	Pro	Asn	Leu	Val	Lys	Gly	Pro				
	450					455					460								
Arg	Ser	Ser	Pro	Ala	Leu	Pro	Gly	Phe	Thr	Ser	Leu	Met	Glu	Met	Ala				

465	470	475	480
Leu Leu Ala Ala Ser Trp Val Val Pro Ile Asp Ile Glu Glu Asp Glu	485	490	495
Asp Ser Glu Gly Pro Gly Ser Gly Glu Ser Arg Leu Gln His Ser Pro	500	505	510
Ser Gln Ser Tyr Leu Cys Ile Pro Phe Pro Arg Gly Glu Asp Gly Asp	515	520	525
Gly Pro Ser Ser Asp Gly Ile His Glu Glu Pro Thr Pro Val Asn Ser	530	535	540
Ala Thr Ser Thr Pro Gln Leu Thr Pro Thr Asn Ser Leu Lys Arg Gly	545	550	555
Gly Ala His His Arg Arg Cys Glu Val Ala Leu Leu Gly Cys Gly Ala	565	570	575
Val Leu Ala Ala Thr Gly Leu Gly Phe Asp Leu Leu Glu Ala Gly Lys	580	585	590
Cys Gln Leu Leu Pro Leu Glu Glu Pro Glu Pro Pro Ala Arg Glu Glu	595	600	605
Lys Lys Arg Arg Glu Gly Leu Phe Gln Arg Ser Ser Arg Pro Arg Arg	610	615	620
Ser Thr Ser Pro Pro Ser Arg Lys Leu Phe Lys Lys Glu Glu Pro Met	625	630	635
Leu Leu Leu Gly Asp Pro Ser Ala Ser Leu Thr Leu Leu Ser Leu Ser	645	650	655
Ser Ile Ser Glu Cys Asn Ser Thr Arg Ser Leu Leu Arg Ser Asp Ser	660	665	670
Asp Glu Ile Val Val Tyr Glu Met Pro Val Ser Pro Val Glu Ala Pro	675	680	685
Pro Leu Ser Pro Cys Thr His Asn Pro Leu Val Asn Val Arg Val Glu	690	695	700
Arg Phe Lys Arg Asp Pro Asn Gln Ser Leu Thr Pro Thr His Val Thr	705	710	715
Leu Thr Thr Pro Ser Gln Pro Ser Ser His Arg Arg Thr Pro Ser Asp	725	730	735
Gly Ala Leu Lys Pro Glu Thr Leu Leu Ala Ser Arg Ser Pro Ser Ser	740	745	750
Asn Gly Leu Ser Pro Ser Pro Gly Ala Gly Met Leu Lys Thr Pro Ser	755	760	765
Pro Ser Arg Asp Pro Gly Glu Phe Pro Arg Leu Pro Asp Pro Asn Val			

770	775	780
Val Phe Pro Pro Thr Pro Arg Arg Trp Asn Thr Gln Gln Asp Ser Thr		
785	790	795 800
Leu Glu Arg Pro Lys Thr Leu Glu Phe Leu Pro Arg Pro Arg Pro Ser		
	805	810 815
Ala Asn Arg Gln Arg Leu Asp Pro Trp Trp Phe Val Ser Pro Ser His		
	820	825 830
Ala Arg Ser Thr Ser Pro Ala Asn Ser Ser Ser Thr Glu Thr Pro Ser		
	835	840 845
Asn Leu Asp Ser Cys Phe Ala Ser Ser Ser Ser Thr Val Glu Glu Arg		
	850	855 860
Pro Gly Leu Pro Ala Leu Leu Pro Phe Gln Ala Gly Pro Leu Pro Pro		
	865	870 875 880
Thr Glu Arg Thr Leu Leu Asp Leu Asp Ala Glu Gly Gln Ser Gln Asp		
	885	890 895
Ser Thr Val Pro Leu Cys Arg Ala Glu Leu Asn Thr His Arg Pro Ala		
	900	905 910
Pro Tyr Glu Ile Gln Gln Glu Phe Trp Ser		
	915	920

<210> 97  
 <211> 954  
 <212> PRT  
 <213> Homo sapiens

<400> 97
Met Glu Glu Glu Glu Gly Ala Val Ala Lys Glu Trp Gly Thr Thr Pro
1 5 10 15
Ala Gly Pro Val Trp Thr Ala Val Phe Asp Tyr Glu Ala Ala Gly Asp
20 25 30
Glu Glu Leu Thr Leu Arg Arg Gly Asp Arg Val Gln Val Leu Ser Gln
35 40 45
Asp Cys Ala Val Ser Gly Asp Glu Gly Trp Trp Thr Gly Gln Leu Pro
50 55 60
Ser Gly Arg Val Gly Val Phe Pro Ser Asn Tyr Val Ala Pro Gly Ala
65 70 75 80
Pro Ala Ala Pro Ala Gly Leu Gln Leu Pro Gln Glu Ile Pro Phe His
85 90 95
Glu Leu Gln Leu Glu Glu Ile Ile Gly Val Gly Gly Phe Gly Lys Val
100 105 110



Tyr Arg Ala Leu Trp Arg Gly Glu Glu Val Ala Val Lys Ala Ala Arg  
 115 120 125  
 Leu Asp Pro Glu Lys Asp Pro Ala Val Thr Ala Glu Gln Val Cys Gln  
 130 135 140  
 Glu Ala Arg Leu Phe Gly Ala Leu Gln His Pro Asn Ile Ile Ala Leu  
 145 150 155 160  
 Arg Gly Ala Cys Leu Asn Pro Pro His Leu Cys Leu Val Met Glu Tyr  
 165 170 175  
 Ala Arg Gly Gly Ala Leu Ser Arg Val Leu Ala Gly Arg Arg Val Pro  
 180 185 190  
 Pro His Val Leu Val Asn Trp Ala Val Gln Val Ala Arg Gly Met Asn  
 195 200 205  
 Tyr Leu His Asn Asp Ala Pro Val Pro Ile Ile His Arg Asp Leu Lys  
 210 215 220  
 Ser Ile Asn Ile Leu Ile Leu Glu Ala Ile Glu Asn His Asn Leu Ala  
 225 230 235 240  
 Asp Thr Val Leu Lys Ile Thr Asp Phe Gly Leu Ala Arg Glu Trp His  
 245 250 255  
 Lys Thr Thr Lys Met Ser Ala Ala Gly Thr Tyr Ala Trp Met Ala Pro  
 260 265 270  
 Glu Val Ile Arg Leu Ser Leu Phe Ser Lys Ser Ser Asp Val Trp Ser  
 275 280 285  
 Phe Gly Val Leu Leu Trp Glu Leu Leu Thr Gly Glu Val Pro Tyr Arg  
 290 295 300  
 Glu Ile Asp Ala Leu Ala Val Ala Tyr Gly Val Ala Met Asn Lys Leu  
 305 310 315 320  
 Thr Leu Pro Ile Pro Ser Thr Cys Pro Glu Pro Phe Ala Arg Leu Leu  
 325 330 335  
 Glu Glu Cys Trp Asp Pro Asp Pro His Gly Arg Pro Asp Phe Gly Ser  
 340 345 350  
 Ile Leu Lys Arg Leu Glu Val Ile Glu Gln Ser Ala Leu Phe Gln Met  
 355 360 365  
 Pro Leu Glu Ser Phe His Ser Leu Gln Glu Asp Trp Lys Leu Glu Ile  
 370 375 380  
 Gln His Met Phe Asp Asp Leu Arg Thr Lys Glu Lys Glu Leu Arg Ser  
 385 390 395 400  
 Arg Glu Glu Glu Leu Leu Arg Ala Ala Gln Glu Gln Arg Phe Gln Glu  
 405 410 415

Glu	Gln	Leu	Arg	Arg	Arg	Glu	Gln	Glu	Leu	Ala	Glu	Arg	Glu	Met	Asp	420	425	430
Ile	Val	Glu	Arg	Glu	Leu	His	Leu	Leu	Met	Cys	Gln	Leu	Ser	Gln	Glu	435	440	445
Lys	Pro	Arg	Val	Arg	Lys	Arg	Lys	Gly	Asn	Phe	Lys	Arg	Ser	Arg	Leu	450	455	460
Leu	Lys	Leu	Arg	Glu	Gly	Gly	Ser	His	Ile	Ser	Leu	Pro	Ser	Gly	Phe	465	470	475
Glu	His	Lys	Ile	Thr	Val	Gln	Ala	Ser	Pro	Thr	Leu	Asp	Lys	Arg	Lys	485	490	495
Gly	Ser	Asp	Gly	Ala	Ser	Pro	Pro	Ala	Ser	Pro	Ser	Ile	Ile	Pro	Arg	500	505	510
Leu	Arg	Ala	Ile	Arg	Leu	Thr	Pro	Val	Asp	Cys	Gly	Gly	Ser	Ser	Ser	515	520	525
Gly	Ser	Ser	Ser	Gly	Gly	Ser	Gly	Thr	Trp	Ser	Arg	Gly	Gly	Pro	Pro	530	535	540
Lys	Lys	Glu	Glu	Leu	Val	Gly	Gly	Lys	Lys	Lys	Gly	Arg	Thr	Trp	Gly	545	550	555
Pro	Ser	Ser	Thr	Leu	Gln	Lys	Glu	Arg	Val	Gly	Gly	Glu	Glu	Arg	Leu	565	570	575
Lys	Gly	Leu	Gly	Glu	Gly	Ser	Lys	Gln	Trp	Ser	Ser	Ser	Ala	Pro	Asn	580	585	590
Leu	Gly	Lys	Ser	Pro	Lys	His	Thr	Pro	Ile	Ala	Pro	Gly	Phe	Ala	Ser	595	600	605
Leu	Asn	Glu	Met	Glu	Glu	Phe	Ala	Glu	Ala	Glu	Asp	Gly	Gly	Ser	Ser	610	615	620
Val	Pro	Pro	Ser	Pro	Tyr	Ser	Thr	Pro	Ser	Tyr	Leu	Ser	Val	Pro	Leu	625	630	635
Pro	Ala	Glu	Pro	Ser	Pro	Gly	Ala	Arg	Ala	Pro	Trp	Glu	Pro	Thr	Pro	645	650	655
Ser	Ala	Pro	Pro	Ala	Arg	Trp	Gly	His	Gly	Ala	Arg	Arg	Arg	Cys	Asp	660	665	670
Leu	Ala	Leu	Leu	Gly	Cys	Ala	Thr	Leu	Leu	Gly	Ala	Val	Gly	Leu	Gly	675	680	685
Ala	Asp	Val	Ala	Glu	Ala	Arg	Ala	Ala	Asp	Gly	Glu	Glu	Gln	Arg	Arg	690	695	700
Trp	Leu	Asp	Gly	Leu	Phe	Phe	Pro	Arg	Ala	Gly	Arg	Phe	Pro	Arg	Gly	705	710	715

Leu Ser Pro Pro Ala Arg Pro His Gly Arg Arg Glu Asp Val Gly Pro  
                             725                            730                            735  
 Gly Leu Gly Leu Ala Pro Ser Ala Thr Leu Val Ser Leu Ser Ser Val  
                             740                            745                            750  
 Ser Asp Cys Asn Ser Thr Arg Ser Leu Leu Arg Ser Asp Ser Asp Glu  
                             755                            760                            765  
 Ala Ala Pro Ala Ala Pro Ser Pro Pro Pro Ser Pro Pro Ala Pro Thr  
                             770                            775                            780  
 Pro Thr Pro Ser Pro Ser Thr Asn Pro Leu Val Asp Leu Glu Leu Glu  
 785                            790                            795                            800  
 Ser Phe Lys Lys Asp Pro Gly Gln Ser Leu Thr Pro Thr His Val Thr  
                             805                            810                            815  
 Ala Val Cys Ala Val Ser Arg Gly His Arg Arg Thr Pro Ser Asp Gly  
                             820                            825                            830  
 Ala Leu Gly Gln Arg Gly Pro Pro Glu Pro Ala Gly His Gly Pro Gly  
                             835                            840                            845  
 Pro Arg Asp Leu Leu Asp Phe Pro Arg Leu Pro Asp Pro Gln Ala Leu  
                             850                            855                            860  
 Phe Pro Ala Arg Arg Arg Pro Pro Glu Phe Pro Gly Arg Pro Thr Thr  
 865                            870                            875                            880  
 Leu Thr Phe Ala Pro Arg Pro Arg Pro Ala Ala Ser Arg Pro Arg Leu  
                             885                            890                            895  
 Asp Pro Trp Lys Leu Val Ser Phe Gly Arg Thr Leu Thr Ile Ser Pro  
                             900                            905                            910  
 Pro Ser Arg Pro Asp Thr Pro Glu Ser Pro Gly Pro Pro Ser Val Gln  
                             915                            920                            925  
 Pro Thr Leu Leu Asp Met Asp Met Glu Gly Gln Asn Gln Asp Ser Thr  
                             930                            935                            940  
 Val Pro Leu Cys Gly Ala His Gly Ser His  
 945                            950

<210> 98  
 <211> 953  
 <212> PRT  
 <213> Homo sapiens

<400> 98  
 Met Glu Glu Glu Glu Gly Ala Val Ala Lys Glu Trp Gly Thr Thr Pro  
   1                            5                            10                            15  
 Ala Gly Pro Val Trp Thr Ala Val Phe Asp Tyr Glu Ala Ala Gly Asp  
                             20                            25                            30

Glu 35	Glu 35	Leu 35	Thr 35	Leu 35	Arg 35	Arg 35	Gly 40	Asp 40	Arg 40	Val 40	Gln 45	Val 45	Leu 45	Ser 45	Gln 45
Asp 50	Cys 50	Ala 50	Val 50	Ser 50	Gly 55	Asp 55	Glu 55	Gly 55	Trp 55	Trp 55	Thr 60	Gly 60	Gln 60	Leu 60	Pro 60
Ser 65	Gly 65	Arg 65	Val 65	Gly 70	Val 70	Phe 70	Pro 70	Ser 70	Asn 75	Tyr 75	Val 75	Ala 75	Pro 75	Gly 80	Ala 80
Pro 85	Ala 85	Ala 85	Pro 85	Ala 85	Gly 85	Leu 85	Gln 85	Leu 90	Pro 90	Gln 90	Glu 90	Ile 95	Pro 95	Phe 95	His 95
Glu 100	Leu 100	Gln 100	Leu 100	Glu 100	Glu 105	Ile 105	Ile 105	Gly 105	Val 105	Gly 110	Gly 110	Phe 110	Gly 110	Lys 110	Val 110
Tyr 115	Arg 115	Ala 115	Leu 115	Trp 115	Arg 120	Gly 120	Glu 120	Glu 120	Val 120	Ala 125	Val 125	Lys 125	Ala 125	Ala 125	Arg 125
Leu 130	Asp 130	Pro 130	Glu 130	Lys 130	Asp 135	Pro 135	Ala 135	Val 135	Thr 135	Ala 140	Glu 140	Gln 140	Val 140	Cys 140	Gln 140
Glu 145	Ala 145	Arg 145	Leu 145	Phe 145	Gly 150	Ala 150	Leu 150	Gln 150	His 155	Pro 155	Asn 155	Ile 155	Ile 155	Ala 160	Leu 160
Arg 165	Gly 165	Ala 165	Cys 165	Leu 165	Asn 165	Pro 165	Pro 170	His 170	Leu 170	Cys 170	Leu 170	Val 170	Met 175	Glu 175	Tyr 175
Ala 180	Arg 180	Gly 180	Gly 180	Ala 180	Leu 180	Ser 185	Arg 185	Val 185	Leu 185	Ala 190	Gly 190	Arg 190	Arg 190	Val 190	Pro 190
Pro 195	His 195	Val 195	Leu 195	Val 195	Asn 195	Trp 200	Ala 200	Val 200	Gln 200	Val 205	Ala 205	Arg 205	Gly 205	Met 205	Asn 205
Tyr 210	Leu 210	His 210	Asn 210	Asp 210	Ala 215	Pro 215	Val 215	Pro 215	Ile 215	Ile 220	His 220	Arg 220	Asp 220	Leu 220	Lys 220
Ser 225	Ile 225	Asn 225	Ile 225	Leu 225	Ile 230	Leu 230	Glu 230	Ala 230	Ile 235	Glu 235	Asn 235	His 235	Asn 235	Leu 235	Ala 240
Asp 245	Thr 245	Val 245	Leu 245	Lys 245	Ile 245	Thr 245	Asp 250	Phe 250	Gly 250	Leu 250	Ala 250	Arg 250	Glu 255	Trp 255	His 255
Lys 260	Thr 260	Thr 260	Lys 260	Met 260	Ser 260	Ala 265	Ala 265	Gly 265	Thr 265	Tyr 265	Ala 265	Trp 270	Met 270	Ala 270	Pro 270
Glu 275	Val 275	Ile 275	Arg 275	Leu 275	Ser 275	Leu 280	Phe 280	Ser 280	Lys 280	Ser 285	Ser 285	Asp 285	Val 285	Trp 285	Ser 285
Phe 290	Gly 290	Val 290	Leu 290	Leu 290	Trp 290	Glu 295	Leu 295	Leu 295	Thr 295	Gly 300	Glu 300	Val 300	Pro 300	Tyr 300	Arg 300
Glu 305	Ile 305	Asp 305	Ala 305	Leu 305	Ala 310	Val 310	Ala 310	Tyr 310	Gly 315	Val 315	Ala 315	Met 315	Asn 315	Lys 315	Leu 320
Thr 325	Leu 325	Pro 325	Ile 325	Pro 325	Ser 325	Thr 325	Cys 330	Pro 330	Glu 330	Pro 330	Phe 330	Ala 330	Arg 330	Leu 335	Leu 335

Glu	Glu	Cys	Trp	Asp	Pro	Asp	Pro	His	Gly	Arg	Pro	Asp	Phe	Gly	Ser	340	345	350
Ile	Leu	Lys	Arg	Leu	Glu	Val	Ile	Glu	Gln	Ser	Ala	Leu	Phe	Gln	Met	355	360	365
Pro	Leu	Glu	Ser	Phe	His	Ser	Leu	Gln	Glu	Asp	Trp	Lys	Leu	Glu	Ile	370	375	380
Gln	His	Met	Phe	Asp	Asp	Leu	Arg	Thr	Lys	Glu	Lys	Glu	Leu	Arg	Ser	385	390	395
Arg	Glu	Glu	Glu	Leu	Leu	Arg	Ala	Ala	Gln	Glu	Gln	Arg	Phe	Gln	Glu	405	410	415
Glu	Gln	Leu	Arg	Arg	Arg	Glu	Gln	Glu	Leu	Ala	Glu	Arg	Glu	Met	Asp	420	425	430
Ile	Val	Glu	Arg	Glu	Leu	His	Leu	Leu	Met	Cys	Gln	Leu	Ser	Gln	Glu	435	440	445
Lys	Pro	Arg	Val	Arg	Lys	Arg	Lys	Gly	Asn	Phe	Lys	Arg	Ala	Val	Leu	450	455	460
Lys	Leu	Arg	Glu	Gly	Ser	Ser	His	Ile	Ser	Leu	Pro	Ser	Gly	Phe	Glu	465	470	475
His	Lys	Ile	Thr	Val	Gln	Ala	Ser	Pro	Thr	Leu	Asp	Lys	Arg	Lys	Gly	485	490	495
Ser	Asp	Gly	Ala	Ser	Pro	Pro	Ala	Ser	Pro	Ser	Ile	Ile	Pro	Arg	Leu	500	505	510
Arg	Ala	Ile	Arg	Leu	Thr	Pro	Val	Asp	Cys	Gly	Gly	Ser	Ser	Ser	Gly	515	520	525
Ser	Ser	Ser	Gly	Gly	Ser	Gly	Thr	Trp	Ser	Arg	Gly	Gly	Pro	Pro	Lys	530	535	540
Lys	Glu	Glu	Leu	Val	Gly	Gly	Lys	Lys	Lys	Gly	Arg	Thr	Trp	Gly	Pro	545	550	555
Ser	Ser	Thr	Leu	Gln	Lys	Glu	Arg	Val	Gly	Gly	Glu	Glu	Arg	Leu	Lys	565	570	575
Gly	Leu	Gly	Glu	Gly	Ser	Lys	Gln	Trp	Ser	Ser	Ser	Ala	Pro	Asn	Leu	580	585	590
Gly	Lys	Ser	Pro	Lys	His	Thr	Pro	Ile	Ala	Pro	Gly	Phe	Ala	Ser	Leu	595	600	605
Asn	Glu	Met	Glu	Glu	Phe	Ala	Glu	Ala	Glu	Asp	Gly	Gly	Ser	Ser	Val	610	615	620
Pro	Pro	Ser	Pro	Tyr	Ser	Thr	Pro	Ser	Tyr	Leu	Ser	Val	Pro	Leu	Pro	625	630	635

Ala Glu Pro Ser Pro Gly Ala Arg Ala Pro Trp Glu Pro Thr Pro Ser  
 645 650 655

Ala Pro Pro Ala Arg Trp Gly His Gly Ala Arg Arg Arg Cys Asp Leu  
 660 665 670

Ala Leu Leu Gly Cys Ala Thr Leu Leu Gly Ala Val Gly Leu Gly Ala  
 675 680 685

Asp Val Ala Glu Ala Arg Ala Ala Asp Gly Glu Glu Gln Arg Arg Trp  
 690 695 700

Leu Asp Gly Leu Phe Phe Pro Arg Ala Gly Arg Phe Pro Arg Gly Leu  
 705 710 715 720

Ser Pro Pro Ala Arg Pro His Gly Arg Arg Glu Asp Val Gly Pro Gly  
 725 730 735

Leu Gly Leu Ala Pro Ser Ala Thr Leu Val Ser Leu Ser Ser Val Ser  
 740 745 750

Asp Cys Asn Ser Thr Arg Ser Leu Leu Arg Ser Asp Ser Asp Glu Ala  
 755 760 765

Ala Pro Ala Ala Pro Ser Pro Pro Pro Ser Pro Pro Ala Pro Thr Pro  
 770 775 780

Thr Pro Ser Pro Ser Thr Asn Pro Leu Val Asp Leu Glu Leu Glu Ser  
 785 790 795 800

Phe Lys Lys Asp Pro Arg Gln Ser Leu Thr Pro Thr His Val Thr Ala  
 805 810 815

Ala Cys Ala Val Ser Arg Gly His Arg Arg Thr Pro Ser Asp Gly Ala  
 820 825 830

Leu Gly Gln Arg Gly Pro Pro Glu Pro Ala Gly His Gly Pro Gly Pro  
 835 840 845

Arg Asp Leu Leu Asp Phe Pro Arg Leu Pro Asp Pro Gln Ala Leu Phe  
 850 855 860

Pro Ala Arg Arg Arg Pro Pro Glu Phe Pro Gly Arg Pro Thr Thr Leu  
 865 870 875 880

Thr Phe Ala Pro Arg Pro Arg Pro Ala Ala Ser Arg Pro Arg Leu Asp  
 885 890 895

Pro Trp Lys Leu Val Ser Phe Gly Arg Thr Leu Thr Ile Ser Pro Pro  
 900 905 910

Ser Arg Pro Asp Thr Pro Glu Ser Pro Gly Pro Pro Ser Val Gln Pro  
 915 920 925

Thr Leu Leu Asp Met Asp Met Glu Gly Gln Asn Gln Asp Ser Thr Val  
 930 935 940

Pro Leu Cys Gly Ala His Gly Ser His  
945 950

<210> 99  
<211> 394  
<212> PRT  
<213> Homo sapiens

<400> 99  
Ala Glu Leu Thr Leu Glu Glu Ile Ile Gly Ile Gly Gly Phe Gly Lys  
1 5 10 15  
Val Tyr Arg Ala Phe Trp Ile Gly Asp Glu Val Ala Val Lys Ala Ala  
20 25 30  
Arg His Asp Pro Asp Glu Asp Ile Ser Gln Thr Ile Glu Asn Val Arg  
35 40 45  
Gln Glu Ala Lys Leu Phe Ala Met Leu Lys His Pro Asn Ile Ile Ala  
50 55 60  
Leu Arg Gly Val Cys Leu Lys Glu Pro Asn Leu Cys Leu Val Met Glu  
65 70 75 80  
Phe Ala Arg Gly Gly Pro Leu Asn Arg Val Leu Ser Gly Lys Arg Ile  
85 90 95  
Pro Pro Asp Ile Leu Val Asn Trp Ala Val Gln Ile Ala Arg Gly Met  
100 105 110  
Asn Tyr Leu His Asp Glu Ala Ile Val Pro Ile Ile His Arg Asp Leu  
115 120 125  
Lys Ser Ser Asn Ile Leu Ile Leu Gln Lys Val Glu Asn Gly Asp Leu  
130 135 140  
Ser Asn Lys Ile Leu Lys Ile Thr Asp Phe Gly Leu Ala Arg Glu Trp  
145 150 155 160  
His Arg Thr Thr Lys Met Ser Ala Ala Gly Thr Tyr Ala Trp Met Ala  
165 170 175  
Pro Glu Val Ile Arg Ala Ser Met Phe Ser Lys Gly Ser Asp Val Trp  
180 185 190  
Ser Tyr Gly Val Leu Leu Trp Glu Leu Leu Thr Gly Glu Val Pro Phe  
195 200 205  
Arg Gly Ile Asp Gly Leu Arg Val Ala Tyr Gly Val Ala Met Asn Lys  
210 215 220  
Leu Ala Leu Pro Ile Pro Ser Thr Cys Pro Glu Pro Phe Ala Lys Leu  
225 230 235 240  
Met Glu Asp Cys Trp Asn Pro Asp Pro His Ser Arg Pro Ser Phe Thr





Arg Gly Met Glu Tyr Leu Glu Ser Lys Asn Phe Val His Arg Asp Leu  
 115 120 125  
 Ala Ala Arg Asn Cys Leu Val Gly Glu Asn Lys Thr Val Lys Ile Ala  
 130 135 140  
 Asp Phe Gly Leu Ala Arg Asp Leu Tyr Asp Asp Asp Tyr Tyr Arg Lys  
 145 150 155 160  
 Lys Lys Ser Pro Arg Leu Pro Ile Arg Trp Met Ala Pro Glu Ser Leu  
 165 170 175  
 Lys Asp Gly Lys Phe Thr Ser Lys Ser Asp Val Trp Ser Phe Gly Val  
 180 185 190  
 Leu Leu Trp Glu Ile Phe Thr Leu Gly Glu Ser Pro Tyr Pro Gly Met  
 195 200 205  
 Ser Asn Glu Glu Val Leu Glu Tyr Leu Lys Lys Gly Tyr Arg Leu Pro  
 210 215 220  
 Gln Pro Pro Asn Cys Pro Asp Glu Ile Tyr Asp Leu Met Leu Gln Cys  
 225 230 235 240  
 Trp Ala Glu Asp Pro Glu Asp Arg Pro Thr Phe Ser Glu Leu Val Glu  
 245 250 255  
 Arg Leu

<210> 101  
 <211> 251  
 <212> PRT  
 <213> Homo sapiens

<400> 101  
 Tyr Glu Leu Gly Glu Lys Leu Gly Ser Gly Ala Phe Gly Lys Val Tyr  
 1 5 10 15  
 Lys Gly Lys His Lys Asp Thr Gly Glu Ile Val Ala Ile Lys Ile Leu  
 20 25 30  
 Lys Lys Arg Ser Leu Ser Glu Lys Lys Arg Phe Leu Arg Glu Ile  
 35 40 45  
 Gln Ile Leu Arg Arg Leu Ser His Pro Asn Ile Val Arg Leu Leu Gly  
 50 55 60  
 Val Phe Glu Glu Asp Asp His Leu Tyr Leu Val Met Glu Tyr Met Glu  
 65 70 75 80  
 Gly Gly Asp Leu Phe Asp Tyr Leu Arg Arg Asn Gly Leu Leu Leu Ser  
 85 90 95  
 Glu Lys Glu Ala Lys Lys Ile Ala Leu Gln Ile Leu Arg Gly Leu Glu  
 100 105 110

Tyr Leu His Ser Arg Gly Ile Val His Arg Asp Leu Lys Pro Glu Asn  
 115 120 125  
 Ile Leu Leu Asp Glu Asn Gly Thr Val Lys Ile Ala Asp Phe Gly Leu  
 130 135 140  
 Ala Arg Lys Leu Glu Ser Ser Ser Tyr Glu Lys Leu Thr Thr Phe Val  
 145 150 155 160  
 Gly Thr Pro Glu Tyr Met Ala Pro Glu Val Leu Glu Gly Arg Gly Tyr  
 165 170 175  
 Ser Ser Lys Val Asp Val Trp Ser Leu Gly Val Ile Leu Tyr Glu Leu  
 180 185 190  
 Leu Thr Gly Lys Leu Pro Phe Pro Gly Ile Asp Pro Leu Glu Glu Leu  
 195 200 205  
 Phe Arg Ile Lys Glu Arg Pro Arg Leu Arg Leu Pro Leu Pro Pro Asn  
 210 215 220  
 Cys Ser Glu Glu Leu Lys Asp Leu Ile Lys Lys Cys Leu Asn Lys Asp  
 225 230 235 240  
 Pro Glu Lys Arg Pro Thr Ala Lys Glu Ile Leu  
 245 250

<210> 102  
 <211> 250  
 <212> PRT  
 <213> Homo sapiens

<400> 102  
 Glu Leu Leu Glu Val Leu Gly Lys Gly Ala Phe Gly Lys Val Tyr Leu  
 1 5 10 15  
 Ala Arg Asp Lys Lys Thr Gly Lys Leu Val Ala Ile Lys Val Ile Lys  
 20 25 30  
 Lys Glu Lys Leu Lys Lys Lys Lys Arg Glu Arg Ile Leu Arg Glu Ile  
 35 40 45  
 Lys Ile Leu Lys Lys Leu Asp His Pro Asn Ile Val Lys Leu Tyr Asp  
 50 55 60  
 Val Phe Glu Asp Asp Asp Lys Leu Tyr Leu Val Met Glu Tyr Cys Glu  
 65 70 75 80  
 Gly Gly Asp Leu Phe Asp Leu Leu Lys Lys Arg Gly Arg Leu Ser Glu  
 85 90 95  
 Asp Glu Ala Arg Phe Tyr Ala Arg Gln Ile Leu Ser Ala Leu Glu Tyr  
 100 105 110  
 Leu His Ser Gln Gly Ile Ile His Arg Asp Leu Lys Pro Glu Asn Ile

115					120					125					
Leu	Leu	Asp	Ser	Asp	Gly	His	Val	Lys	Leu	Ala	Asp	Phe	Gly	Leu	Ala
130						135					140				
Lys	Gln	Leu	Asp	Ser	Gly	Gly	Thr	Leu	Leu	Thr	Thr	Phe	Val	Gly	Thr
145					150					155					160
Pro	Glu	Tyr	Met	Ala	Pro	Glu	Val	Leu	Leu	Gly	Lys	Gly	Tyr	Gly	Lys
				165						170				175	
Ala	Val	Asp	Ile	Trp	Ser	Leu	Gly	Val	Ile	Leu	Tyr	Glu	Leu	Leu	Thr
			180					185					190		
Gly	Lys	Pro	Pro	Phe	Pro	Gly	Asp	Asp	Gln	Leu	Leu	Ala	Leu	Phe	Lys
		195					200					205			
Lys	Ile	Gly	Lys	Pro	Pro	Pro	Pro	Phe	Pro	Pro	Pro	Glu	Trp	Lys	Ile
210						215						220			
Ser	Pro	Glu	Ala	Lys	Asp	Leu	Ile	Lys	Lys	Leu	Leu	Val	Lys	Asp	Pro
225					230					235					240
Glu	Lys	Arg	Leu	Thr	Ala	Glu	Glu	Ala	Leu						
				245					250						

<210> 103  
 <211> 57  
 <212> PRT  
 <213> Homo sapiens

<400> 103  
 Glu Gly Pro Gln Val Arg Ala Leu Tyr Asp Tyr Thr Ala Gln Asp Pro  
 1 5 10 15  
 Asp Glu Leu Ser Phe Lys Lys Gly Asp Ile Ile Thr Val Leu Glu Lys  
 20 25 30  
 Ser Asp Asp Gly Trp Trp Lys Gly Arg Leu Gly Thr Gly Lys Glu Gly  
 35 40 45  
 Leu Phe Pro Ser Asn Tyr Val Glu Glu  
 50 55

<210> 104  
 <211> 56  
 <212> PRT  
 <213> Homo sapiens

<400> 104  
 Pro Lys Val Val Ala Leu Tyr Asp Tyr Gln Ala Arg Glu Ser Asp Glu  
 1 5 10 15  
 Leu Ser Phe Lys Lys Gly Asp Ile Ile Ile Val Leu Glu Lys Ser Asp  
 20 25 30

Asp Gly Gly Trp Trp Lys Gly Arg Leu Lys Gly Thr Lys Glu Gly Leu  
35 40 45

Ile Pro Ser Asn Tyr Val Glu Pro  
50 55

<210> 105

<211> 204

<212> PRT

<213> Homo sapiens

<400> 105

Met Arg Pro Cys Ala Asn Gly Ala Thr Cys Leu Asp Gly Ile Asn Arg  
1 5 10 15

Phe Ser Cys Leu Cys Pro Glu Gly Phe Ala Gly Arg Phe Cys Thr Ile  
20 25 30

Asn Leu Asp Asp Cys Ala Ser Arg Pro Cys Gln Arg Gly Ala Arg Cys  
35 40 45

Arg Asp Arg Val His Asp Phe Asp Cys Leu Cys Pro Ser Gly Tyr Gly  
50 55 60

Gly Lys Thr Cys Glu Leu Val Leu Pro Val Pro Asp Pro Pro Thr Thr  
65 70 75 80

Val Asp Thr Pro Leu Gly Pro Thr Ser Ala Val Val Val Pro Ala Thr  
85 90 95

Gly Pro Ala Pro His Ser Ala Gly Ala Gly Leu Leu Arg Ile Ser Val  
100 105 110

Lys Glu Val Val Arg Arg Gln Glu Ala Gly Leu Gly Glu Pro Ser Leu  
115 120 125

Val Ala Leu Val Val Phe Gly Ala Leu Thr Ala Ala Leu Val Leu Ala  
130 135 140

Thr Val Leu Leu Thr Leu Arg Ala Trp Arg Arg Gly Val Cys Pro Pro  
145 150 155 160

Gly Pro Cys Cys Tyr Pro Ala Pro His Tyr Ala Pro Ala Cys Gln Asp  
165 170 175

Gln Glu Cys Gln Val Ser Met Leu Pro Ala Gly Leu Pro Leu Pro Arg  
180 185 190

Asp Leu Pro Pro Glu Pro Gly Lys Thr Thr Ala Leu  
195 200

<210> 106

<211> 102

<212> PRT

<213> Mus musculus

<400> 106

Met Pro Thr Ser Ala Val Val Val Pro Ala Thr Gly Pro Ala Pro His  
1 5 10 15  
Ser Ala Gly Ala Gly Leu Leu Arg Ile Ser Val Lys Glu Val Val Phe  
20 25 30  
Gly Ser Leu Thr Ala Ala Leu Val Leu Ala Thr Val Leu Leu Thr Leu  
35 40 45  
Arg Ala Trp Arg Arg Gly Ile Cys Pro Thr Gly Pro Cys Cys Tyr Pro  
50 55 60  
Ala Pro His Tyr Ala Pro Ala Arg Gln Asp Gln Glu Cys Gln Val Ser  
65 70 75 80  
Met Leu Pro Ala Gly Phe Pro Leu Ser Pro Asp Leu Pro Pro Glu Pro  
85 90 95  
Gly Lys Thr Thr Ala Leu  
100

<210> 107

<211> 722

<212> PRT

<213> Mus musculus

<400> 107

Met Gly Arg Arg Ser Ala Leu Ala Leu Ala Val Val Ser Ala Leu Leu  
1 5 10 15  
Cys Gln Val Trp Ser Ser Gly Val Phe Glu Leu Lys Leu Gln Glu Phe  
20 25 30  
Val Asn Lys Lys Gly Leu Leu Gly Asn Arg Asn Cys Cys Arg Gly Gly  
35 40 45  
Ser Gly Pro Pro Cys Ala Cys Arg Thr Phe Phe Arg Val Cys Leu Lys  
50 55 60  
His Tyr Gln Ala Ser Val Ser Pro Glu Pro Pro Cys Thr Tyr Gly Ser  
65 70 75 80  
Ala Val Thr Pro Val Leu Gly Val Asp Ser Phe Ser Leu Pro Asp Gly  
85 90 95  
Ala Gly Ile Asp Pro Ala Phe Ser Asn Pro Ile Arg Phe Pro Phe Gly  
100 105 110  
Phe Thr Trp Pro Gly Thr Phe Ser Leu Ile Ile Glu Ala Leu His Thr  
115 120 125  
Asp Ser Pro Asp Asp Leu Ala Thr Glu Asn Pro Glu Arg Leu Ile Ser  
130 135 140

Arg	Leu	Thr	Thr	Gln	Arg	His	Leu	Thr	Val	Gly	Glu	Glu	Trp	Ser	Gln	145	150	155				160
Asp	Leu	His	Ser	Ser	Gly	Arg	Thr	Asp	Leu	Arg	Tyr	Ser	Tyr	Arg	Phe		165	170				175
Val	Cys	Asp	Glu	His	Tyr	Tyr	Gly	Glu	Gly	Cys	Ser	Val	Phe	Cys	Arg		180	185				190
Pro	Arg	Asp	Asp	Ala	Phe	Gly	His	Phe	Thr	Cys	Gly	Asp	Arg	Gly	Glu		195	200				205
Lys	Met	Cys	Asp	Pro	Gly	Trp	Lys	Gly	Gln	Tyr	Cys	Thr	Asp	Pro	Ile		210	215				220
Cys	Leu	Pro	Gly	Cys	Asp	Asp	Gln	His	Gly	Tyr	Cys	Asp	Lys	Pro	Gly		225	230				240
Glu	Cys	Lys	Cys	Arg	Val	Gly	Trp	Gln	Gly	Arg	Tyr	Cys	Asp	Glu	Cys		245	250				255
Ile	Arg	Tyr	Pro	Gly	Cys	Leu	His	Gly	Thr	Cys	Gln	Gln	Pro	Trp	Gln		260	265				270
Cys	Asn	Cys	Gln	Glu	Gly	Trp	Gly	Gly	Leu	Phe	Cys	Asn	Gln	Asp	Leu		275	280				285
Asn	Tyr	Cys	Thr	His	His	Lys	Pro	Cys	Arg	Asn	Gly	Ala	Thr	Cys	Thr		290	295				300
Asn	Thr	Gly	Gln	Gly	Ser	Tyr	Thr	Cys	Ser	Cys	Arg	Pro	Gly	Tyr	Thr		305	310				320
Gly	Ala	Asn	Cys	Glu	Leu	Glu	Val	Asp	Glu	Cys	Ala	Pro	Ser	Pro	Cys		325	330				335
Lys	Asn	Gly	Ala	Ser	Cys	Thr	Asp	Leu	Glu	Asp	Ser	Phe	Ser	Cys	Thr		340	345				350
Cys	Pro	Pro	Gly	Phe	Tyr	Gly	Lys	Val	Cys	Glu	Leu	Ser	Ala	Met	Thr		355	360				365
Cys	Ala	Asp	Gly	Pro	Cys	Phe	Asn	Gly	Gly	Arg	Cys	Ser	Asp	Asn	Pro		370	375				380
Asp	Gly	Gly	Tyr	Thr	Cys	His	Cys	Pro	Leu	Gly	Phe	Ser	Gly	Phe	Asn		385	390				400
Cys	Glu	Lys	Lys	Met	Asp	Leu	Cys	Gly	Ser	Ser	Pro	Cys	Ser	Asn	Gly		405	410				415
Ala	Lys	Cys	Val	Asp	Leu	Gly	Asn	Ser	Tyr	Leu	Cys	Arg	Cys	Gln	Ala		420	425				430
Gly	Phe	Ser	Gly	Arg	Tyr	Cys	Glu	Asp	Asn	Val	Asp	Asp	Cys	Ala	Ser		435	440				445

Ser Pro Cys Ala Asn Gly Gly Thr Cys Arg Asp Ser Val Asn Asp Phe  
 450 455 460  
 Ser Cys Thr Cys Pro Pro Gly Tyr Thr Gly Lys Asn Cys Ser Ala Pro  
 465 470 475 480  
 Val Ser Arg Cys Glu His Ala Pro Cys His Asn Gly Ala Thr Cys His  
 485 490 495  
 Gln Arg Gly Gln Arg Tyr Met Cys Glu Cys Ala Gln Gly Tyr Gly Gly  
 500 505 510  
 Pro Asn Cys Gln Phe Leu Leu Pro Glu Pro Pro Pro Gly Pro Met Val  
 515 520 525  
 Val Asp Leu Ser Glu Arg His Met Glu Ser Gln Gly Gly Pro Phe Pro  
 530 535 540  
 Trp Val Ala Val Cys Ala Gly Val Val Leu Val Leu Leu Leu Leu Leu  
 545 550 555 560  
 Gly Cys Ala Ala Val Val Val Cys Val Arg Leu Lys Leu Gln Lys His  
 565 570 575  
 Gln Pro Pro Pro Glu Pro Cys Gly Gly Glu Thr Glu Thr Met Asn Asn  
 580 585 590  
 Leu Ala Asn Cys Gln Arg Glu Lys Asp Val Ser Val Ser Ile Ile Gly  
 595 600 605  
 Ala Thr Gln Ile Lys Asn Thr Asn Lys Lys Ala Asp Phe His Gly Asp  
 610 615 620  
 His Gly Ala Lys Lys Ser Ser Phe Lys Val Arg Tyr Pro Thr Val Asp  
 625 630 635 640  
 Tyr Asn Leu Val Arg Asp Leu Lys Gly Asp Glu Ala Thr Val Arg Asp  
 645 650 655  
 Thr His Ser Lys Arg Asp Thr Lys Cys Gln Ser Gln Ser Ser Ala Gly  
 660 665 670  
 Glu Glu Lys Ile Ala Pro Thr Leu Arg Gly Gly Glu Ile Pro Asp Arg  
 675 680 685  
 Lys Arg Pro Glu Ser Val Tyr Ser Thr Ser Lys Asp Thr Lys Tyr Gln  
 690 695 700  
 Ser Val Tyr Val Leu Ser Ala Glu Lys Asp Glu Cys Val Ile Ala Thr  
 705 710 715 720  
 Glu Val

<211> 714

<212> PRT

<213> Rattus norvegicus

<400> 108

Met	Gly	Arg	Arg	Ser	Ala	Leu	Ala	Leu	Ala	Val	Val	Ser	Ala	Leu	Leu	
1				5					10					15		
Cys	Gln	Val	Trp	Ser	Ser	Gly	Val	Phe	Glu	Leu	Lys	Leu	Gln	Glu	Phe	
			20					25					30			
Val	Asn	Lys	Lys	Gly	Leu	Leu	Gly	Asn	Arg	Asn	Cys	Cys	Arg	Gly	Gly	
		35					40					45				
Ser	Gly	Pro	Pro	Cys	Ala	Cys	Arg	Thr	Phe	Phe	Arg	Val	Cys	Leu	Lys	
	50					55					60					
His	Tyr	Gln	Ala	Ser	Val	Ser	Pro	Glu	Pro	Pro	Cys	Thr	Tyr	Gly	Ser	
65					70					75					80	
Ala	Val	Thr	Ala	Val	Leu	Gly	Val	Asp	Ser	Phe	Ser	Leu	Pro	Asp	Gly	
				85					90					95		
Ala	Gly	Ile	Asp	Pro	Ala	Phe	Ser	Asn	Pro	Ile	Arg	Phe	Pro	Phe	Gly	
			100					105					110			
Phe	Thr	Trp	Pro	Gly	Thr	Phe	Ser	Leu	Ile	Ile	Glu	Ala	Leu	His	Thr	
		115					120					125				
Asp	Ser	Pro	Asp	Asp	Leu	Ala	Thr	Glu	Asn	Pro	Glu	Arg	Leu	Ile	Ser	
	130					135					140					
Arg	Leu	Thr	Thr	Gln	Arg	His	Leu	Thr	Val	Gly	Glu	Glu	Trp	Ser	Gln	
145					150					155					160	
Asp	Leu	His	Ser	Ser	Gly	Arg	Thr	Asp	Leu	Arg	Tyr	Ser	Tyr	Arg	Phe	
				165					170					175		
Val	Cys	Asp	Glu	His	Tyr	Tyr	Gly	Glu	Gly	Cys	Ser	Val	Phe	Cys	Arg	
			180					185					190			
Pro	Arg	Asp	Asp	Ala	Phe	Gly	His	Phe	Thr	Cys	Gly	Glu	Arg	Gly	Glu	
		195					200					205				
Lys	Met	Cys	Asp	Pro	Gly	Trp	Lys	Gly	Gln	Tyr	Cys	Thr	Asp	Pro	Ile	
	210					215					220					
Cys	Leu	Pro	Gly	Cys	Asp	Asp	Gln	His	Gly	Tyr	Cys	Asp	Lys	Pro	Gly	
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Glu	Cys	Lys	Cys	Arg	Val	Gly	Trp	Gln	Gly	Arg	Tyr	Cys	Asp	Glu	Cys	
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Ile	Arg	Tyr	Pro	Gly	Cys	Leu	His	Gly	Thr	Cys	Gln	Gln	Pro	Trp	Gln	
			260					265					270			
Cys	Asn	Cys	Gln	Glu	Gly	Trp	Gly	Gly	Leu	Phe	Cys	Asn	Gln	Asp	Leu	



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Gly	Ala	Asn	Cys	Glu	Leu	Glu	Val	Asp	Glu	Cys	Ala	Pro	Ser	Pro	Cys
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Cys	Ala	Asp	Gly	Pro	Cys	Phe	Asn	Gly	Gly	Arg	Cys	Ser	Asp	Asn	Pro
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Asp	Gly	Gly	Tyr	Thr	Cys	His	Cys	Pro	Ala	Gly	Phe	Ser	Gly	Phe	Asn
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Cys	Glu	Lys	Lys	Ile	Asp	Leu	Cys	Ser	Ser	Ser	Pro	Cys	Ser	Asn	Gly
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Ala	Lys	Cys	Val	Asp	Leu	Gly	Asn	Ser	Tyr	Leu	Cys	Arg	Cys	Gln	Thr
			420					425					430		
Gly	Phe	Ser	Gly	Arg	Tyr	Cys	Glu	Asp	Asn	Val	Asp	Asp	Cys	Ala	Ser
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Ser	Pro	Cys	Ala	Asn	Gly	Gly	Thr	Cys	Arg	Asp	Ser	Val	Asn	Asp	Phe
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Val	Ser	Arg	Cys	Glu	His	Ala	Pro	Cys	His	Asn	Gly	Ala	Thr	Cys	His
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Gln	Arg	Gly	Gln	Arg	Tyr	Met	Cys	Glu	Cys	Ala	Gln	Gly	Tyr	Gly	Gly
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Val	Leu	Val	Leu	Leu	Leu	Leu	Leu	Gly	Cys	Ala	Ala	Val	Val	Val	Cys
545					550					555					560
Val	Arg	Leu	Lys	Leu	Gln	Lys	His	Gln	Pro	Pro	Pro	Asp	Pro	Cys	Gly
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Gly	Glu	Thr	Glu	Thr	Met	Asn	Asn	Leu	Ala	Asn	Cys	Gln	Arg	Glu	Lys

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Lys	Ala	Arg	Tyr	Pro	Thr	Val	Asp	Tyr	Asn	Leu	Ile	Arg	Asp	Leu	Lys
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Gly	Asp	Glu	Ala	Thr	Val	Arg	Asp	Ala	His	Ser	Lys	Arg	Asp	Thr	Lys
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Arg	Gly	Gly	Glu	Val	Pro	Asp	Arg	Lys	Arg	Pro	Glu	Ser	Val	Tyr	Ser
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Val	Asn	Lys	Lys	Gly	Leu	Leu	Gly	Asn	Met	Asn	Cys	Cys	Arg	Pro	Gly
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Ser	Leu	Ala	Ser	Leu	Gln	Arg	Cys	Glu	Cys	Lys	Thr	Phe	Phe	Arg	Ile
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Cys	Leu	Lys	His	Tyr	Gln	Ser	Asn	Val	Ser	Pro	Glu	Pro	Pro	Cys	Thr
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Tyr	Gly	Gly	Ala	Val	Thr	Pro	Val	Leu	Gly	Thr	Asn	Ser	Phe	Val	Val
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Pro	Glu	Ser	Ser	Asn	Ala	Asp	Pro	Thr	Phe	Ser	Asn	Pro	Ile	Arg	Phe
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Pro	Phe	Gly	Phe	Thr	Trp	Pro	Gly	Thr	Phe	Ser	Leu	Ile	Ile	Glu	Ala
		115					120					125			

Ile	His	Ala	Asp	Ser	Ala	Asp	Asp	Leu	Asn	Thr	Glu	Asn	Pro	Glu	Arg	130	135	140	
Leu	Ile	Ser	Arg	Leu	Ala	Thr	Gln	Arg	His	Leu	Thr	Val	Gly	Glu	Gln	145	150	155	160
Trp	Ser	Gln	Asp	Leu	His	Ser	Ser	Asp	Arg	Thr	Glu	Leu	Lys	Tyr	Ser	165	170	175	
Tyr	Arg	Phe	Val	Cys	Asp	Glu	Tyr	Tyr	Tyr	Gly	Glu	Gly	Cys	Ser	Asp	180	185	190	
Tyr	Cys	Arg	Pro	Arg	Asp	Asp	Ala	Phe	Gly	His	Phe	Ser	Cys	Gly	Glu	195	200	205	
Lys	Gly	Glu	Lys	Leu	Cys	Asn	Pro	Gly	Trp	Lys	Gly	Leu	Tyr	Cys	Thr	210	215	220	
Glu	Pro	Ile	Cys	Leu	Pro	Gly	Cys	Asp	Glu	His	His	Gly	Tyr	Cys	Asp	225	230	235	240
Lys	Pro	Gly	Glu	Cys	Lys	Cys	Arg	Val	Gly	Trp	Gln	Gly	Arg	Tyr	Cys	245	250	255	
Asp	Glu	Cys	Ile	Arg	Tyr	Pro	Gly	Cys	Leu	His	Gly	Thr	Cys	Gln	Gln	260	265	270	
Pro	Trp	Gln	Cys	Asn	Cys	Gln	Glu	Gly	Trp	Gly	Gly	Leu	Phe	Cys	Asn	275	280	285	
Gln	Asp	Leu	Asn	Tyr	Cys	Thr	His	His	Lys	Pro	Cys	Glu	Asn	Gly	Ala	290	295	300	
Thr	Cys	Thr	Asn	Thr	Gly	Gln	Gly	Ser	Tyr	Thr	Cys	Ser	Cys	Arg	Pro	305	310	315	320
Gly	Tyr	Thr	Gly	Ser	Asn	Cys	Glu	Ile	Glu	Val	Asn	Glu	Cys	Asp	Ala	325	330	335	
Asn	Pro	Cys	Lys	Asn	Gly	Gly	Ser	Cys	Ser	Asp	Leu	Glu	Asn	Ser	Tyr	340	345	350	
Thr	Cys	Ser	Cys	Pro	Pro	Gly	Phe	Tyr	Gly	Lys	Asn	Cys	Glu	Leu	Ser	355	360	365	
Ala	Met	Thr	Cys	Ala	Asp	Gly	Pro	Cys	Phe	Asn	Gly	Gly	Arg	Cys	Ala	370	375	380	
Asp	Asn	Pro	Asp	Gly	Gly	Tyr	Ile	Cys	Phe	Cys	Pro	Val	Gly	Tyr	Ser	385	390	395	400
Gly	Phe	Asn	Cys	Glu	Lys	Lys	Ile	Asp	Tyr	Cys	Ser	Ser	Asn	Pro	Cys	405	410	415	
Ala	Asn	Gly	Ala	Arg	Cys	Glu	Asp	Leu	Gly	Asn	Ser	Tyr	Ile	Cys	Gln	420	425	430	

Cys Gln Glu Gly Phe Ser Gly Arg Asn Cys Asp Asp Asn Leu Asp Asp  
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 450 455 460  
 Asn Asp Tyr Ser Cys Thr Cys Pro Pro Gly Tyr Ile Gly Lys Asn Cys  
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 Ser Met Pro Ile Thr Lys Cys Glu His Asn Pro Cys His Asn Gly Ala  
 485 490 495  
 Thr Cys His Glu Arg Asn Asn Arg Tyr Val Cys Gln Cys Ala Arg Gly  
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 Tyr Gly Gly Asn Asn Cys Gln Phe Leu Leu Pro Glu Glu Lys Pro Val  
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 Val Val Asp Leu Thr Glu Lys Tyr Thr Glu Gly Gln Ser Gly Gln Phe  
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 Pro Trp Ile Ala Val Cys Ala Gly Ile Val Leu Val Leu Met Leu Leu  
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 Leu Gly Cys Ala Ala Val Val Val Cys Val Arg Val Arg Val Gln Lys  
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 Arg Arg His Gln Pro Glu Ala Cys Arg Gly Glu Ser Lys Thr Met Asn  
 580 585 590  
 Asn Leu Ala Asn Cys Gln Arg Glu Lys Asp Ile Ser Val Ser Phe Ile  
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 Gly Thr Thr Gln Ile Lys Asn Thr Asn Lys Lys Ile Asp Phe Leu Ser  
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 Glu Ser Asn Asn Glu Lys Asn Gly Tyr Lys Pro Arg Tyr Pro Ser Val  
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 Asp Tyr Asn Leu Val His Glu Leu Lys Asn Glu Asp Ser Pro Lys Glu  
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 Glu Asp Val Asn Ser Val His Ser Lys Arg Asp Ser Ser Glu Arg Arg  
 675 680 685  
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 Val

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 Ser Ser Asp Asn Thr Lys Trp Gln Thr Lys Trp Phe Ala Leu Leu Gln  
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 Leu Tyr Leu Leu Glu Gly Cys Val Cys Asp Arg Ala Pro Ser Pro Lys  
 65 70 75 80  
 Pro Ala Leu Ser Ala Lys Glu Pro Leu Glu Lys Gln His Tyr Phe Thr  
 85 90 95  
 Val Asn Phe Ser His Glu Asn Gln Lys Ala Leu Glu Leu Arg Thr Glu  
 100 105 110  
 Asp Ala Lys Asp Cys Asp Glu Trp Val Ala Ala Ile Ala His Ala Ser  
 115 120 125  
 Tyr Arg Thr Leu Ala Thr Glu His Glu Ala Leu Met Gln Lys Tyr Leu  
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 His Leu Leu Gln Ile Val Glu Thr Glu Lys Thr Val Ala Lys Gln Leu  
 145 150 155 160  
 Arg Gln Gln Ile Glu Asp Gly Glu Ile Glu Ile Glu Arg Leu Lys Ala  
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 180 185 190  
 Thr Val Ala Pro Asn Asp Glu Asp Ser Asp Ile Lys Lys Ile Lys Lys

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Val	Gln	Ser	Phe	Leu	Arg	Gly	Trp	Leu	Cys	Arg	Arg	Lys	Trp	Lys	Thr	
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225					230					235					240	
Arg	Asn	Gln	Val	Val	Phe	Ser	Met	Leu	Glu	Ala	Glu	Ala	Glu	Tyr	Val	
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Ile	Phe	Leu	Asn	Ser	Glu	Thr	Ile	Met	Phe	Leu	His	Gln	Ile	Phe	Tyr	
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Gln	Gly	Leu	Lys	Ala	Arg	Ile	Ser	Ser	Trp	Pro	Thr	Leu	Val	Leu	Ala	
305					310					315					320	
Asp	Leu	Leu	Asp	Ile	Leu	Leu	Pro	Met	Leu	Asn	Ile	Tyr	Gln	Glu	Phe	
325					330					335						
Val	Arg	Asn	His	Gln	Tyr	Ser	Leu	Gln	Ile	Leu	Ala	His	Cys	Lys	Gln	
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Asn	Arg	Asp	Phe	Asp	Lys	Leu	Leu	Lys	His	Tyr	Glu	Ala	Lys	Pro	Asp	
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Cys	Glu	Glu	Arg	Thr	Leu	Glu	Thr	Phe	Leu	Thr	Tyr	Pro	Met	Phe	Gln	
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Ile	Pro	Arg	Tyr	Ile	Leu	Thr	Leu	His	Asp	Val	Leu	Ala	His	Thr	Pro	
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His	Glu	His	Val	Glu	Arg	Asn	Ser	Leu	Asp	Tyr	Ala	Lys	Ser	Lys	Leu	
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435					440					445						
Ile	Leu	Leu	Asp	Thr	Ser	Gln	Thr	Phe	Val	Arg	Gln	Gly	Ser	Leu	Ile	
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Gln	Val	Pro	Met	Ser	Glu	Lys	Gly	Lys	Ile	Thr	Arg	Gly	Arg	Leu	Gly	
465					470					475					480	
Ser	Leu	Ser	Leu	Glu	Lys	Glu	Gly	Glu	Arg	Gln	Cys	Phe	Leu	Phe	Ser	
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Thr	Lys	Asn	Gly	Val	Ile	Ser	Leu	Ile	Asp	Cys	Thr	Leu	Leu	Glu	Glu
		515					520					525			
Pro	Glu	Ser	Thr	Glu	Glu	Glu	Ala	Lys	Gly	Ser	Gly	Gln	Asp	Ile	Asp
	530					535					540				
His	Leu	Asp	Phe	Lys	Ile	Gly	Val	Glu	Pro	Lys	Asp	Ser	Pro	Pro	Phe
545						550					555				560
Thr	Val	Ile	Leu	Val	Ala	Ser	Ser	Arg	Gln	Glu	Lys	Ala	Ala	Trp	Thr
				565					570					575	
Ser	Asp	Ile	Ser	Gln	Cys	Val	Asp	Asn	Ile	Arg	Cys	Asn	Gly	Leu	Met
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Met	Asn	Ala	Phe	Glu	Glu	Asn	Ser	Lys	Val	Thr	Val	Pro	Gln	Met	Ile
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Lys	Arg	Thr	Arg	Glu	Gly	Thr	Arg	Glu	Ala	Glu	Met	Ser	Arg	Ser	Asp
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625						630					635				640
Asn	Ser	Cys	Lys	Val	Leu	Gln	Ile	Arg	Tyr	Ala	Ser	Val	Glu	Arg	Leu
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Leu	Glu	Arg	Leu	Thr	Asp	Leu	Arg	Phe	Leu	Ser	Ile	Asp	Phe	Leu	Asn
			660					665					670		
Thr	Phe	Leu	His	Ser	Tyr	Arg	Val	Phe	Thr	Thr	Ala	Ile	Val	Val	Leu
		675					680					685			
Asp	Lys	Leu	Ile	Thr	Ile	Tyr	Lys	Lys	Pro	Ile	Ser	Ala	Ile	Pro	Ala
	690					695					700				
Arg	Trp	Leu	Arg	Ser	Leu	Glu	Leu	Leu	Phe	Ala	Ser	Gly	Gln	Asn	Asn
705						710					715				720
Lys	Leu	Leu	Tyr	Gly	Glu	Pro	Pro	Lys	Ser	Pro	Arg	Ala	Thr	Arg	Lys
				725					730					735	
Phe	Ser	Ser	Pro	Pro	Pro	Leu	Ser	Ile	Thr	Lys	Thr	Ser	Ser	Pro	Ser
			740					745					750		
Arg	Arg	Arg	Lys	Leu	Ile	Ser	Leu	Asn	Ile	Pro	Ile	Ile	Thr	Gly	Gly
			755				760					765			
Lys	Ala	Leu	Asp	Leu	Ala	Gly	Ser	Leu	Ser	Cys	Asn	Ser	Asn	Gly	Tyr
	770					775					780				
Thr	Ser	Met	Tyr	Ser	Ala	Met	Ser	Pro	Phe	Ser	Lys	Ala	Thr	Leu	Asp
785						790					795				800
Thr	Ser	Lys	Leu	Tyr	Val	Ser	Ser	Ser	Phe	Thr	Asn	Lys	Ile	Pro	Asp

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Phe	Ser	Tyr	Asn	Asn	Gly	Val	Val	Met	Thr	Ser	Cys	Arg	Glu	Leu	Asp		
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915				920				925									
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Arg	His	Trp	Val	Ser	Lys	His	Ser	Gln	Asp	Phe	Glu	Thr	Asn	Asp	Glu		
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Leu	Lys	Cys	Lys	Val	Ile	Gly	Phe	Leu	Glu	Glu	Val	Met	His	Asp	Pro		
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Glu	Leu	Leu	Thr	Gln	Glu	Arg	Lys	Ala	Ala	Ala	Asn	Ile	Ile	Arg	Thr		
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Leu	Thr	Gln	Glu	Asp	Pro	Gly	Asp	Asn	Gln	Ile	Thr	Leu	Glu	Glu	Ile		
1010				1015				1020									
Thr	Gln	Met	Ala	Glu	Gly	Val	Lys	Ala	Glu	Pro	Phe	Glu	Asn	His	Ser		
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Ala	Leu	Glu	Ile	Ala	Glu	Gln	Leu	Thr	Leu	Leu	Asp	His	Leu	Val	Phe		
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Lys	Lys	Ile	Pro	Tyr	Glu	Glu	Phe	Phe	Gly	Gln	Gly	Trp	Met	Lys	Leu		
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Glu	Lys	Asn	Glu	Arg	Thr	Pro	Tyr	Ile	Met	Lys	Thr	Thr	Lys	His	Phe		
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Asn	Asp	Ile	Ser	Asn	Leu	Ile	Ala	Ser	Glu	Ile	Ile	Arg	Asn	Glu	Asp		
1090				1095				1100									
Ile	Asn	Ala	Arg	Val	Ser	Ala	Ile	Glu	Lys	Trp	Val	Ala	Val	Ala	Asp		



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Ile Cys Arg Cys Leu His Asn Tyr Asn Ala Val Leu Glu Ile Thr Ser			
	1125	1130	1135
Ser Met Asn Arg Ser Ala Ile Phe Arg Leu Lys Lys Thr Trp Leu Lys			
	1140	1145	1150
Val Ser Lys Gln Thr Lys Ala Leu Ile Asp Lys Leu Gln Lys Leu Val			
	1155	1160	1165
Ser Ser Glu Gly Arg Phe Lys Asn Leu Arg Glu Ala Leu Lys Asn Cys			
	1170	1175	1180
Asp Pro Pro Cys Val Pro Tyr Leu Gly Met Tyr Leu Thr Asp Leu Ala			
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Phe Ile Glu Glu Gly Thr Pro Asn Tyr Thr Glu Asp Gly Leu Val Asn			
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Phe Ser Lys Met Arg Met Ile Ser His Ile Ile Arg Glu Ile Arg Gln			
	1220	1225	1230
Phe Gln Gln Thr Ala Tyr Lys Ile Glu His Gln Ala Lys Val Thr Gln			
	1235	1240	1245
Tyr Leu Leu Asp Gln Ser Phe Val Met Asp Glu Glu Ser Leu Tyr Glu			
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Ser Ser Asp Asn Pro Lys Trp Gln Thr Lys Trp Phe Ala Leu Leu Gln			
	35	40	45
Asn Leu Leu Phe Tyr Phe Glu Ser Asp Ser Ser Ser Arg Pro Ser Gly			
	50	55	60
Leu Tyr Leu Leu Glu Gly Ser Ile Cys Lys Arg Met Pro Ser Pro Lys			
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Arg Gly Thr Ser Ser Lys Glu Ser Asp Lys Gln His His Tyr Phe Thr			
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Val	Asn	Phe	Ser	Asn	Asp	Ser	Gln	Lys	Ser	Leu	Glu	Leu	Arg	Thr	Asp		
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Asp	Ser	Lys	Asp	Cys	Asp	Glu	Trp	Val	Ala	Ala	Ile	Ala	Arg	Ala	Ser		
		115					120					125					
Tyr	Lys	Ile	Leu	Ala	Thr	Gln	His	Gln	Ala	Leu	Met	Gln	Lys	Tyr	Leu		
	130					135					140						
His	Leu	Leu	Gln	Val	Val	Glu	Thr	Glu	Lys	Thr	Val	Ala	Lys	Gln	Leu		
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Arg	Gln	Gln	Leu	Glu	Asp	Gly	Glu	Val	Glu	Ile	Glu	Arg	Leu	Lys	Ala		
				165					170					175			
Glu	Ile	Ala	Asn	Leu	Ile	Lys	Asp	Asn	Glu	Arg	Ile	Gln	Ser	Asn	Gln		
			180					185					190				
Leu	Val	Ala	Pro	Glu	Asp	Glu	Asp	Ser	Asp	Ile	Lys	Lys	Ile	Lys	Lys		
	195						200					205					
Val	Gln	Ser	Phe	Leu	Arg	Gly	Trp	Leu	Cys	Arg	Arg	Lys	Trp	Lys	Asn		
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225					230					235					240		
Arg	Asn	Gln	Val	Val	Phe	Ser	Met	Leu	Glu	Ala	Glu	Ala	Glu	Tyr	Val		
			245						250					255			
Gln	Gln	Leu	His	Ile	Leu	Val	Asn	Asn	Phe	Leu	Arg	Pro	Leu	Arg	Met		
			260					265					270				
Ala	Ala	Ser	Ser	Lys	Lys	Pro	Pro	Ile	Thr	His	Asp	Asp	Val	Ser	Ser		
		275					280					285					
Ile	Phe	Leu	Asn	Ser	Glu	Thr	Ile	Met	Phe	Leu	His	Gln	Ile	Phe	Tyr		
	290					295					300						
Gln	Gly	Leu	Lys	Ala	Arg	Ile	Ala	Ser	Trp	Pro	Thr	Leu	Val	Leu	Ala		
305					310					315					320		
Asp	Leu	Phe	Asp	Ile	Leu	Leu	Pro	Met	Leu	Asn	Ile	Tyr	Gln	Glu	Phe		
			325						330					335			
Val	Arg	Asn	His	Gln	Tyr	Ser	Leu	Gln	Ile	Leu	Ala	His	Cys	Lys	Gln		
			340					345					350				
Asn	Arg	Asp	Phe	Asp	Lys	Leu	Leu	Lys	Gln	Tyr	Glu	Ala	Lys	Pro	Asp		
		355					360					365					
Cys	Glu	Glu	Arg	Thr	Leu	Glu	Thr	Phe	Leu	Thr	Tyr	Pro	Met	Phe	Gln		
	370					375					380						
Ile	Pro	Arg	Tyr	Ile	Leu	Thr	Leu	His	Glu	Leu	Leu	Ala	His	Thr	Pro		
385					390					395					400		

His	Glu	His	Val	Glu	Arg	Asn	Ser	Leu	Asp	Tyr	Ala	Lys	Ser	Lys	Leu	
				405					410					415		
Glu	Glu	Leu	Ser	Arg	Val	Met	His	Asp	Glu	Val	Ser	Glu	Thr	Glu	Asn	
			420					425					430			
Ile	Arg	Lys	Asn	Leu	Ala	Ile	Glu	Arg	Met	Ile	Thr	Glu	Gly	Cys	Glu	
		435					440					445				
Ile	Leu	Leu	Asp	Thr	Ser	Gln	Thr	Phe	Val	Arg	Gln	Gly	Ser	Leu	Ile	
	450					455					460					
Gln	Val	Pro	Met	Ser	Glu	Lys	Gly	Lys	Ile	Asn	Lys	Gly	Arg	Leu	Gly	
465					470					475					480	
Ser	Leu	Ser	Leu	Lys	Lys	Glu	Gly	Glu	Arg	Gln	Cys	Phe	Leu	Phe	Ser	
				485					490					495		
Lys	His	Leu	Ile	Ile	Cys	Thr	Arg	Gly	Ser	Gly	Ser	Lys	Leu	His	Leu	
		500						505					510			
Thr	Lys	Asn	Gly	Val	Ile	Ser	Leu	Ile	Asp	Cys	Thr	Leu	Leu	Asp	Asp	
		515					520					525				
Pro	Glu	Asn	Met	Asp	Asp	Asp	Gly	Lys	Gly	Gln	Glu	Val	Asp	His	Leu	
	530					535					540					
Asp	Phe	Lys	Ile	Trp	Val	Glu	Pro	Lys	Asp	Ser	Pro	Pro	Phe	Thr	Val	
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Ile	Leu	Val	Ala	Ser	Ser	Arg	Gln	Glu	Lys	Ala	Ala	Trp	Thr	Ser	Asp	
				565					570					575		
Ile	Ile	Gln	Cys	Val	Asp	Asn	Ile	Arg	Cys	Asn	Gly	Leu	Met	Met	Asn	
		580						585					590			
Ala	Phe	Glu	Glu	Asn	Ser	Lys	Val	Thr	Val	Pro	Gln	Met	Ile	Lys	Ser	
		595					600					605				
Asp	Ala	Ser	Leu	Tyr	Cys	Asp	Asp	Val	Asp	Ile	Arg	Phe	Ser	Lys	Thr	
	610					615					620					
Met	Asn	Ser	Cys	Lys	Val	Leu	Gln	Ile	Arg	Tyr	Ala	Ser	Val	Glu	Arg	
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Leu	Leu	Glu	Arg	Leu	Thr	Asp	Leu	Arg	Phe	Leu	Ser	Ile	Asp	Phe	Leu	
				645					650					655		
Asn	Thr	Phe	Leu	His	Ser	Tyr	Arg	Val	Phe	Thr	Asp	Ala	Val	Val	Val	
			660					665					670			
Leu	Asp	Lys	Leu	Ile	Ser	Ile	Tyr	Lys	Lys	Pro	Ile	Thr	Ala	Ile	Pro	
		675					680					685				
Ala	Arg	Ser	Leu	Glu	Leu	Leu	Phe	Ser	Ser	Ser	His	Asn	Thr	Lys	Leu	
	690					695					700					

Leu	Tyr	Gly	Asp	Ala	Pro	Lys	Ser	Pro	Arg	Ala	Ser	Arg	Lys	Phe	Ser	705	710	715	720
Ser	Pro	Pro	Pro	Leu	Ala	Ile	Gly	Thr	Ser	Ser	Pro	Val	Arg	Arg	Arg	725	730	735	
Lys	Leu	Ser	Leu	Asn	Ile	Pro	Ile	Ile	Thr	Gly	Gly	Lys	Ala	Leu	Glu	740	745	750	
Leu	Ala	Ser	Leu	Gly	Cys	Pro	Ser	Asp	Gly	Tyr	Thr	Asn	Ile	His	Ser	755	760	765	
Pro	Ile	Ser	Pro	Phe	Gly	Lys	Thr	Thr	Leu	Asp	Thr	Ser	Lys	Leu	Cys	770	775	780	
Val	Ala	Ser	Ser	Leu	Thr	Arg	Thr	Pro	Glu	Glu	Ile	Asp	Met	Thr	Thr	785	790	795	800
Leu	Glu	Glu	Ser	Ser	Gly	Phe	Arg	Lys	Pro	Thr	Ser	Asp	Ile	Leu	Lys	805	810	815	
Glu	Glu	Ser	Asp	Asp	Asp	Gln	Ser	Asp	Val	Asp	Asp	Thr	Glu	Val	Ser	820	825	830	
Pro	Pro	Thr	Pro	Lys	Ser	Phe	Arg	Asn	Arg	Ile	Thr	Gln	Glu	Phe	Pro	835	840	845	
Leu	Phe	Asn	Tyr	Asn	Ser	Gly	Ile	Met	Met	Thr	Cys	Arg	Asp	Leu	Met	850	855	860	
Asp	Ser	Asn	Arg	Ser	Pro	Leu	Ser	Ala	Thr	Ser	Ala	Phe	Ala	Ile	Ala	865	870	875	880
Thr	Ala	Gly	Ala	Asn	Glu	Ser	Pro	Ala	Asn	Lys	Glu	Ile	Tyr	Arg	Arg	885	890	895	
Met	Ser	Leu	Ala	Asn	Thr	Gly	Tyr	Ser	Ser	Asp	Gln	Arg	Asn	Ile	Asp	900	905	910	
Lys	Glu	Phe	Val	Ile	Arg	Arg	Ala	Ala	Thr	Asn	Arg	Val	Leu	Asn	Val	915	920	925	
Leu	Arg	His	Trp	Val	Thr	Lys	His	Ser	Gln	Asp	Phe	Glu	Thr	Asp	Asp	930	935	940	
Leu	Leu	Lys	Tyr	Lys	Val	Ile	Cys	Phe	Leu	Glu	Glu	Val	Met	His	Asp	945	950	955	960
Pro	Asp	Leu	Leu	Pro	Gln	Glu	Arg	Lys	Ala	Ala	Ala	Asn	Ile	Met	Arg	965	970	975	
Thr	Leu	Thr	Gln	Glu	Glu	Ile	Thr	Glu	Asn	His	Ser	Met	Leu	Asp	Glu	980	985	990	
Leu	Leu	Leu	Met	Thr	Glu	Gly	Val	Lys	Thr	Glu	Pro	Phe	Glu	Asn	His	995	1000	1005	

Ser Ala Met Glu Ile Ala Glu Gln Leu Thr Leu Leu Asp His Leu Val  
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 Phe Lys Ser Ile Pro Tyr Glu Glu Phe Phe Gly Gln Gly Trp Met Lys  
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 Ala Asp Lys Asn Glu Arg Thr Pro Tyr Ile Met Lys Thr Thr Arg His  
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 Phe Asn His Ile Ser Asn Leu Ile Ala Ser Glu Ile Leu Arg Asn Glu  
 1060 1065 1070  
 Glu Val Ser Ala Arg Ala Ser Thr Ile Glu Lys Trp Val Ala Val Ala  
 1075 1080 1085  
 Asp Ile Cys Arg Cys Leu His Asn Tyr Asn Ala Val Leu Glu Ile Thr  
 1090 1095 1100  
 Ser Ser Ile Asn Arg Ser Ala Ile Phe Arg Leu Lys Lys Thr Trp Leu  
 1105 1110 1115 1120  
 Lys Val Ser Lys Gln Thr Lys Ser Leu Phe Asp Lys Leu Gln Lys Leu  
 1125 1130 1135  
 Val Ser Ser Asp Gly Arg Phe Lys Asn Leu Arg Glu Thr Leu Arg Asn  
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 Cys Asp Pro Pro Cys Val Pro Tyr Leu Gly Met Tyr Leu Thr Asp Leu  
 1155 1160 1165  
 Ala Phe Leu Glu Glu Gly Thr Pro Asn Tyr Thr Glu Asp Gly Leu Val  
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 Asn Phe Ser Lys Met Arg Met Ile Ser His Ile Ile Arg Glu Ile Arg  
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 Gln Phe Gln Gln Thr Thr Tyr Lys Ile Glu Pro Gln Pro Lys Val Thr  
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 Glu Ala Ser Leu Arg Ile Glu Pro Lys Leu Pro Thr  
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 <212> PRT  
 <213> Homo sapiens  
  
 <400> 113  
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 Phe Leu Ala Arg Lys Glu Gly Thr Lys Arg Gly Phe Leu Ser Lys Lys  
 20 25 30



Gln Glu Phe Val Arg Asn His Gln Tyr Ser Leu Gln Val Leu Ala Asn  
 340 345 350  
 Cys Lys Gln Asn Arg Asp Phe Asp Lys Leu Leu Lys Gln Tyr Glu Ala  
 355 360 365  
 Asn Pro Ala Cys Glu Gly Arg Met Leu Glu Thr Phe Leu Thr Tyr Pro  
 370 375 380  
 Met Phe Gln Ile Pro Arg Tyr Ile Ile Thr Leu His Glu Leu Leu Ala  
 385 390 395 400  
 His Thr Pro His Glu His Val Glu Arg Lys Ser Leu Glu Phe Ala Lys  
 405 410 415  
 Ser Lys Leu Glu Glu Leu Ser Arg Val Met His Asp Glu Val Ser Asp  
 420 425 430  
 Thr Glu Asn Ile Arg Lys Asn Leu Ala Ile Glu Arg Met Ile Val Glu  
 435 440 445  
 Gly Cys Asp Ile Leu Leu Asp Thr Ser Gln Thr Phe Ile Arg Gln Gly  
 450 455 460  
 Ser Leu Ile Gln Val Pro Ser Val Glu Arg Gly Lys Leu Ser Lys Val  
 465 470 475 480  
 Arg Leu Gly Ser Leu Ser Leu Lys Lys Glu Gly Glu Arg Gln Cys Phe  
 485 490 495  
 Leu Phe Thr Lys His Phe Leu Ile Cys Thr Arg Ser Ser Gly Gly Lys  
 500 505 510  
 Leu His Leu Leu Lys Thr Gly Gly Val Leu Ser Leu Ile Asp Cys Thr  
 515 520 525  
 Leu Ile Glu Glu Pro Asp Ala Ser Asp Asp Asp Ser Lys Gly Ser Gly  
 530 535 540  
 Gln Val Phe Gly His Leu Asp Phe Lys Ile Val Val Glu Pro Pro Asp  
 545 550 555 560  
 Arg Ala Ala Phe Thr Val Val Leu Leu Ala Pro Ser Arg Gln Glu Lys  
 565 570 575  
 Ala Ala Trp Met Ser Asp Ile Ser Gln Cys Val Asp Asn Ile Arg Cys  
 580 585 590  
 Asn Gly Leu Met Thr Ile Val Phe Glu Glu Asn Ser Lys Val Thr Val  
 595 600 605  
 Pro His Met Ile Lys Ser Asp Ala Arg Leu His Lys Asp Asp Thr Asp  
 610 615 620  
 Ile Cys Phe Ser Lys Thr Leu Asn Ser Cys Lys Val Pro Gln Ile Arg  
 625 630 635 640

Tyr Ala Ser Val Glu Arg Leu Leu Glu Arg Leu Thr Asp Leu Arg Phe  
645 650 655  
Leu Ser Ile Asp Phe Leu Asn Thr Phe Leu His Thr Tyr Arg Ile Phe  
660 665 670  
Thr Thr Ala Ala Val Val Leu Gly Lys Leu Ser Asp Ile Tyr Lys Arg  
675 680 685  
Pro Phe Thr Ser Ile Pro Val Arg Ser Leu Glu Leu Phe Phe Ala Thr  
690 695 700  
Ser Gln Asn Asn Arg Gly Glu His Leu Val Asp Gly Lys Ser Pro Arg  
705 710 715 720  
Leu Cys Arg Lys Phe Ser Ser Pro Pro Pro Leu Ala Val Ser Arg Thr  
725 730 735  
Ser Ser Pro Val Arg Ala Arg Lys Leu Ser Leu Thr Ser Pro Leu Asn  
740 745 750  
Ser Lys Ile Gly Ala Leu Asp Leu Thr Thr Ser Ser Ser Pro Thr Thr  
755 760 765  
Thr Thr Gln Ser Pro Ala Ala Ser Pro Pro Pro His Thr Gly Gln Ile  
770 775 780  
Pro Leu Asp Leu Ser Arg Gly Leu Ser Ser Pro Glu Gln Ser Pro Gly  
785 790 795 800  
Thr Val Glu Glu Asn Val Asp Asn Pro Arg Val Asp Leu Cys Asn Lys  
805 810 815  
Leu Lys Arg Ser Ile Gln Lys Ala Val Leu Glu Ser Ala Pro Ala Asp  
820 825 830  
Arg Ala Gly Val Glu Ser Ser Pro Ala Ala Asp Thr Thr Glu Leu Ser  
835 840 845  
Pro Cys Arg Ser Pro Ser Thr Pro Arg His Leu Arg Tyr Arg Gln Pro  
850 855 860  
Gly Gly Gln Thr Ala Asp Asn Ala His Cys Ser Val Ser Pro Ala Ser  
865 870 875 880  
Ala Phe Ala Ile Ala Thr Ala Ala Ala Gly His Gly Ser Pro Pro Gly  
885 890 895  
Phe Asn Asn Thr Glu Arg Thr Cys Asp Lys Glu Phe Ile Ile Arg Arg  
900 905 910  
Thr Ala Thr Asn Arg Val Leu Asn Val Leu Arg His Trp Val Ser Lys  
915 920 925  
His Ala Gln Asp Phe Glu Leu Asn Asn Glu Leu Lys Met Asn Val Leu  
930 935 940



Asn Leu Leu Glu Glu Val Leu Arg Asp Pro Asp Leu Leu Pro Gln Glu  
 945 950 955 960  
 Arg Lys Ala Ala Ala Asn Ile Leu Arg Ala Leu Ser Gln Asp Asp Gln  
 965 970 975  
 Asp Asp Ile His Leu Lys Leu Glu Asp Ile Ile Gln Met Thr Asp Cys  
 980 985 990  
 Met Lys Ala Glu Cys Phe Glu Ser Leu Ser Ala Met Glu Leu Ala Glu  
 995 1000 1005  
 Gln Ile Thr Leu Leu Asp His Val Ile Phe Arg Ser Ile Pro Tyr Glu  
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 Glu Phe Leu Gly Gln Gly Trp Met Lys Leu Asp Lys Asn Glu Arg Thr  
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 Pro Tyr Ile Met Lys Thr Ser Gln His Phe Asn Asp Met Ser Asn Leu  
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 Val Ala Ser Gln Ile Met Asn Tyr Ala Asp Val Ser Ser Arg Ala Asn  
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 1075 1080 1085  
 Asn Tyr Asn Gly Val Leu Glu Ile Thr Ser Ala Leu Asn Arg Ser Ala  
 1090 1095 1100  
 Ile Tyr Arg Leu Lys Lys Thr Trp Ala Lys Val Ser Lys Gln Thr Lys  
 1105 1110 1115 1120  
 Ala Leu Met Asp Lys Leu Gln Lys Thr Val Ser Ser Glu Gly Arg Phe  
 1125 1130 1135  
 Lys Asn Leu Arg Glu Thr Leu Lys Asn Cys Asn Pro Pro Ala Val Pro  
 1140 1145 1150  
 Tyr Leu Gly Met Tyr Leu Thr Asp Leu Ala Phe Ile Glu Glu Gly Thr  
 1155 1160 1165  
 Pro Asn Phe Thr Glu Glu Gly Leu Val Asn Phe Ser Lys Met Arg Met  
 1170 1175 1180  
 Ile Ser His Ile Ile Arg Glu Ile Arg Gln Phe Gln Gln Thr Ser Tyr  
 1185 1190 1195 1200  
 Arg Ile Asp His Gln Pro Lys Val Ala Gln Tyr Leu Leu Asp Lys Asp  
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 Pro Arg Leu Pro Ala  
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<210> 114

<211> 1262

<212> PRT

<213> Mus musculus

<400> 114

Met Gln Lys Ala Ile Arg Leu Asn Asp Gly His Val Val Thr Leu Gly  
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Leu Leu Ala Gln Lys Asp Gly Thr Arg Lys Gly Tyr Leu Ser Lys Arg  
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Ser Ala Asp Asn Pro Lys Trp Gln Thr Lys Trp Phe Ala Leu Leu Gln  
35 40 45

Asn Leu Leu Phe Tyr Phe Glu Ser Asp Ser Ser Pro Arg Pro Ser Gly  
50 55 60

Leu Tyr Leu Leu Glu Gly Ser Ile Cys Lys Arg Ala Pro Ser Pro Lys  
65 70 75 80

Arg Gly Thr Ser Ser Lys Glu Ser Gly Glu Lys Gln Gln His Tyr Phe  
85 90 95

Thr Val Asn Phe Ser Asn Asp Ser Gln Lys Thr Leu Glu Leu Arg Thr  
100 105 110

Glu Asp Ala Lys Asp Cys Asp Glu Trp Val Ala Ala Ile Ala Arg Ala  
115 120 125

Ser Tyr Lys Ile Leu Ala Thr Glu His Glu Ala Leu Met Gln Lys Tyr  
130 135 140

Leu His Leu Leu Gln Val Val Glu Thr Glu Lys Thr Val Ala Lys Gln  
145 150 155 160

Leu Arg Gln Gln Leu Glu Asp Gly Glu Val Glu Ile Glu Arg Leu Lys  
165 170 175

Thr Glu Val Thr Ile Thr Asn Leu Ile Lys Asp Asn Asp Arg Ile Gln  
180 185 190

Ser Ser Asn Lys Ala Gly Ser Ala Asp Asp Glu Asp Ser Asp Ile Lys  
195 200 205

Lys Ile Lys Lys Val Gln Ser Phe Leu Arg Gly Trp Leu Cys Arg Arg  
210 215 220

Lys Trp Lys Asn Ile Ile Gln Asp Tyr Ile Arg Ser Pro His Ala Asp  
225 230 235 240

Ser Met Arg Lys Arg Asn Gln Val Val Phe Ser Met Leu Glu Ala Glu  
245 250 255

Ala Glu Tyr Val Gln Gln Leu His Ile Leu Val Asn Asn Phe Leu Arg

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Pro	Leu	Arg	Met	Ala	Ala	Ser	Ser	Lys	Lys	Pro	Pro	Ile	Thr	His	Asp
		275					280					285			
Asp	Val	Ser	Ser	Ile	Phe	Leu	Asn	Ser	Glu	Thr	Ile	Met	Phe	Leu	His
	290					295					300				
Gln	Ile	Phe	Tyr	Gln	Gly	Leu	Lys	Ala	Arg	Ile	Ser	Ser	Trp	Pro	Thr
305					310					315					320
Leu	Val	Leu	Ala	Asp	Leu	Phe	Asp	Ile	Leu	Leu	Pro	Met	Leu	Asn	Ile
				325					330					335	
Tyr	Gln	Glu	Phe	Val	Arg	Asn	His	Gln	Tyr	Ser	Leu	Gln	Ile	Leu	Ala
			340					345					350		
His	Cys	Lys	Gln	Asn	Arg	Asp	Phe	Asp	Lys	Leu	Leu	Lys	Gln	Tyr	Glu
		355					360					365			
Ala	Lys	Pro	Asp	Cys	Glu	Glu	Arg	Thr	Leu	Glu	Thr	Phe	Leu	Thr	Tyr
	370					375					380				
Pro	Met	Phe	Gln	Ile	Pro	Arg	Tyr	Ile	Leu	Thr	Leu	His	Glu	Leu	Leu
385					390					395					400
Ala	His	Thr	Pro	His	Glu	His	Val	Glu	Arg	Asn	Ser	Leu	Asp	Tyr	Ala
				405				410						415	
Lys	Ser	Lys	Leu	Glu	Glu	Leu	Ser	Arg	Ile	Met	His	Asp	Glu	Val	Ser
			420					425					430		
Glu	Thr	Glu	Asn	Ile	Arg	Lys	Asn	Leu	Ala	Ile	Glu	Arg	Met	Ile	Thr
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	450					455					460				
Gly	Ser	Leu	Met	Gln	Met	Ser	Leu	Ser	Glu	Lys	Ser	Lys	Ser	Ser	Arg
465				470						475					480
Gly	Arg	Leu	Gly	Ser	Leu	Ser	Thr	Lys	Lys	Glu	Gly	Glu	Arg	Gln	Cys
			485					490						495	
Phe	Leu	Phe	Ser	Lys	His	Leu	Ile	Ile	Cys	Thr	Arg	Gly	Ser	Gly	Gly
			500					505					510		
Lys	Leu	His	Leu	Thr	Lys	Asn	Gly	Val	Ile	Ser	Leu	Ile	Asp	Cys	Thr
		515					520					525			
Leu	Leu	Asp	Glu	Pro	Glu	Asn	Leu	Asp	Asp	Glu	Ala	Lys	Gly	Ala	Gly
	530					535					540				
Pro	Glu	Ile	Glu	His	Leu	Glu	Phe	Lys	Ile	Gly	Val	Glu	Pro	Lys	Asp
545				550						555					560
Ser	Leu	Pro	Phe	Thr	Val	Ile	Leu	Val	Ala	Ser	Thr	Arg	Gln	Glu	Lys

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Ala	Ala	Trp	Thr	Ser	Asp	Ile	Ile	Gln	Cys	Val	Asp	Asn	Ile	Arg	Cys				
			580					585					590						
Asn	Gly	Leu	Met	Met	Asn	Ala	Phe	Glu	Glu	Asn	Ser	Lys	Val	Thr	Val				
		595					600					605							
Pro	Gln	Met	Ile	Lys	Ser	Asp	Ala	Ser	Leu	Tyr	Cys	Asp	Asp	Val	Asp				
	610					615					620								
Ile	Arg	Phe	Ser	Lys	Thr	Met	Asn	Ser	Cys	Lys	Val	Leu	Gln	Ile	Arg				
625					630					635					640				
Tyr	Ala	Ser	Val	Glu	Arg	Leu	Leu	Glu	Arg	Leu	Thr	Asp	Leu	Arg	Phe				
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Leu	Ser	Ile	Asp	Phe	Leu	Asn	Thr	Phe	Leu	His	Ser	Tyr	Arg	Val	Phe				
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Thr	Asn	Ala	Met	Val	Val	Leu	Asp	Lys	Leu	Ile	Asn	Ile	Tyr	Arg	Lys				
		675					680					685							
Pro	Met	Ser	Ala	Ile	Pro	Ala	Arg	Ser	Leu	Glu	Leu	Leu	Phe	Ser	Ser				
	690					695					700								
Ser	His	Asn	Ala	Lys	Leu	Leu	Tyr	Gly	Asp	Ala	Pro	Lys	Ser	Pro	Arg				
705					710				715						720				
Ala	Ser	Arg	Lys	Phe	Ser	Ser	Pro	Pro	Pro	Leu	Ala	Ile	Gly	Thr	Ser				
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Ser	Pro	Ser	Arg	Arg	Arg	Lys	Leu	Ser	Leu	Asn	Ile	Pro	Ile	Ile	Thr				
			740					745					750						
Gly	Gly	Lys	Ala	Leu	Glu	Leu	Ala	Ser	Leu	Gly	Cys	Ser	Ser	Asp	Ser				
		755					760					765							
Tyr	Ala	Asn	Ile	His	Ser	Pro	Ile	Ser	Pro	Phe	Gly	Lys	Thr	Thr	Leu				
	770					775					780								
Asp	Thr	Gly	Lys	Leu	Cys	Met	Ala	Ser	Ser	Leu	Pro	Lys	Thr	Pro	Glu				
785					790					795					800				
Glu	Ile	Asp	Val	Pro	Ala	Thr	Ile	Pro	Glu	Lys	Pro	Gly	Glu	Leu	Ser				
				805					810					815					
Ala	Ser	Arg	Lys	His	Ser	Ser	Asp	Val	Leu	Lys	Glu	Glu	Ser	Glu	Asp				
			820					825					830						
Asp	Gln	Asn	His	Ser	Asp	Glu	Asp	Asn	Thr	Glu	Val	Ser	Pro	Val	Lys				
		835					840					845							
Ser	Pro	Pro	Thr	Pro	Lys	Ser	Phe	Leu	Asn	Arg	Thr	Ile	Thr	Glu	Phe				
	850					855					860								
Pro	Phe	Phe	Asn	Tyr	Asn	Asn	Gly	Ile	Leu	Met	Thr	Thr	Cys	Arg	Asp				

865		870		875		880
Leu Val Asp Asn Asn Arg Ser Thr Leu Ser Ala Thr Ser Ala Phe Ala						
		885		890		895
Ile Ala Thr Ala Gly Ala Asn Glu Gly Pro Ser Asn Lys Glu Val Phe						
		900		905		910
Arg Arg Met Ser Leu Ala Asn Thr Gly Phe Ser Ser Asp Gln Arg Asn						
		915		920		925
Ile Asp Lys Glu Phe Val Ile Arg Arg Ala Ala Thr Asn Arg Val Leu						
		930		935		940
Asn Val Leu Arg His Trp Val Thr Lys His Thr Gln Asp Phe Asp Thr						
		945		950		955
Asp Asp Thr Leu Lys Tyr Arg Val Ile Cys Phe Leu Glu Glu Val Met						
		965		970		975
His Asp Pro Asp Leu Leu Thr Gln Glu Arg Lys Ala Ala Ala Asn Ile						
		980		985		990
Ile Arg Thr Leu Thr Leu Glu Glu Thr Thr Glu Gln His Ser Met Leu						
		995		1000		1005
Glu Glu Val Ile Leu Met Thr Glu Gly Val Lys Thr Glu Pro Phe Glu						
		1010		1015		1020
Asn His Pro Ala Leu Glu Ile Ala Glu Gln Leu Thr Leu Leu Asp His						
		1025		1030		1035
Leu Val Phe Lys Ser Ile Pro Tyr Glu Glu Phe Phe Gly Gln Gly Trp						
		1045		1050		1055
Met Lys Ala Glu Lys Tyr Glu Arg Thr Pro Tyr Ile Met Lys Thr Thr						
		1060		1065		1070
Lys His Phe Asn His Val Ser Asn Phe Ile Ala Ser Glu Ile Ile Arg						
		1075		1080		1085
Asn Glu Asp Ile Ser Ala Arg Ala Ser Ala Ile Glu Lys Trp Val Ala						
		1090		1095		1100
Val Ala Asp Ile Cys Arg Cys Leu His Asn Tyr Asn Ala Val Leu Glu						
		1105		1110		1115
Ile Thr Ser Ser Ile Asn Arg Ser Ala Ile Phe Arg Leu Lys Lys Thr						
		1125		1130		1135
Trp Leu Lys Val Ser Lys Gln Thr Lys Ser Leu Leu Asp Lys Leu Gln						
		1140		1145		1150
Lys Leu Val Ser Ser Asp Gly Arg Phe Lys Asn Leu Arg Glu Ser Leu						
		1155		1160		1165
Arg Asn Cys Asp Pro Pro Cys Val Pro Tyr Leu Gly Met Tyr Leu Thr						

1170	1175	1180
Asp Leu Val Phe Ile Glu Glu Gly Thr Pro Asn Tyr Thr Glu Asp Gly		
1185	1190	1195 1200
Leu Val Asn Phe Ser Lys Met Arg Met Ile Ser His Ile Ile Arg Glu		
	1205	1210 1215
Ile Arg Gln Phe Gln Gln Thr Thr Tyr Lys Ile Asp Pro Gln Pro Lys		
	1220	1225 1230
Val Ile Gln Tyr Leu Leu Asp Glu Ser Phe Met Leu Asp Glu Glu Ser		
	1235	1240 1245
Leu Tyr Glu Ser Ser Leu Leu Ile Glu Pro Lys Leu Pro Thr		
	1250 1255	1260
<210> 115		
<211> 1189		
<212> PRT		
<213> Mus musculus		
<400> 115		
Met Gln Lys Ser Val Arg Tyr Asn Glu Gly His Ala Leu Tyr Leu Ala		
1	5	10 15
Met Leu Ala Arg Lys Glu Gly Thr Lys Arg Gly Phe Leu Ser Lys Lys		
	20	25 30
Ala Ala Glu Ala Ser Arg Trp His Glu Lys Trp Phe Ala Leu Tyr Gln		
	35	40 45
Asn Val Leu Phe Tyr Phe Glu Gly Glu Gln Ser Gly Arg Pro Ala Gly		
	50	55 60
Met Tyr Leu Leu Glu Gly Cys Ser Cys Glu Arg Thr Pro Ala Pro Pro		
	65	70 75 80
Arg Thr Asn Ala Gly Pro Ala Gly Ala Arg Asp Ala Leu Asp Lys Gln		
	85	90 95
Tyr Tyr Phe Thr Val Leu Phe Gly His Asp Gly Gln Lys Pro Leu Glu		
	100	105 110
Leu Arg Cys Glu Glu Glu Gln Ala Gly Lys Glu Trp Met Glu Ala Ile		
	115	120 125
His Gln Ala Ser Tyr Ala Asp Ile Leu Ile Glu Arg Glu Val Leu Met		
	130	135 140
Gln Lys Tyr Ile His Leu Val Gln Ile Val Glu Thr Glu Lys Ile Ala		
	145	150 155 160
Thr Asn Gln Leu Arg His Gln Leu Glu Asp Gln Asp Thr Glu Ile Glu		
	165	170 175

Arg	Leu	Lys	Ser	Glu	Ile	Val	Ala	Leu	Asn	Lys	Thr	Lys	Glu	Arg	Met	180	185	190
Arg	Pro	Tyr	His	Val	His	Gln	Glu	Glu	Glu	Asp	Pro	Asp	Ile	Lys	Lys	195	200	205
Ile	Lys	Lys	Val	Gln	Ser	Phe	Met	Arg	Gly	Trp	Leu	Cys	Arg	Arg	Lys	210	215	220
Trp	Lys	Thr	Ile	Val	Gln	Asp	Tyr	Ile	Cys	Ser	Pro	His	Ala	Glu	Ser	225	230	235
Met	Arg	Lys	Arg	Asn	Gln	Ile	Val	Phe	Thr	Met	Val	Glu	Ala	Glu	Thr	245	250	255
Glu	Tyr	Val	His	Gln	Leu	Tyr	Ile	Leu	Val	Asn	Gly	Phe	Leu	Arg	Pro	260	265	270
Leu	Gly	Met	Ala	Ala	Ser	Ser	Lys	Lys	Pro	Pro	Ile	Asn	His	Asp	Asp	275	280	285
Val	Ser	Ser	Ile	Phe	Leu	Asn	Ser	Glu	Thr	Ile	Met	Phe	Leu	His	Glu	290	295	300
Ile	Phe	His	Gln	Gly	Leu	Lys	Ala	Arg	Leu	Ala	Asn	Trp	Pro	Thr	Leu	305	310	315
Val	Leu	Ala	Asp	Leu	Phe	Asp	Ile	Leu	Leu	Pro	Met	Leu	Asn	Ile	Tyr	325	330	335
Gln	Glu	Phe	Val	Arg	Asn	His	Gln	Tyr	Ser	Leu	Gln	Val	Leu	Ala	Asn	340	345	350
Cys	Lys	Gln	Asn	Arg	Asp	Phe	Asp	Lys	Leu	Leu	Lys	Gln	Tyr	Glu	Ala	355	360	365
Asn	Pro	Ala	Cys	Glu	Gly	Arg	Met	Leu	Glu	Thr	Phe	Leu	Thr	Tyr	Pro	370	375	380
Met	Phe	Gln	Ile	Pro	Arg	Tyr	Ile	Ile	Thr	Leu	His	Glu	Leu	Leu	Ala	385	390	395
His	Thr	Pro	His	Glu	His	Val	Glu	Arg	Lys	Ser	Leu	Glu	Phe	Ala	Lys	405	410	415
Ser	Lys	Leu	Glu	Glu	Leu	Ser	Arg	Val	Met	His	Asp	Glu	Val	Ser	Asp	420	425	430
Thr	Glu	Asn	Ile	Arg	Lys	Asn	Leu	Ala	Ile	Glu	Arg	Met	Ile	Val	Glu	435	440	445
Gly	Cys	Asp	Ile	Leu	Leu	Asp	Thr	Ser	Gln	Thr	Phe	Ile	Arg	Gln	Gly	450	455	460
Ser	Leu	Ile	Gln	Val	Pro	Ser	Val	Glu	Arg	Gly	Lys	Leu	Ser	Lys	Val	465	470	475

Arg	Leu	Gly	Ser	Leu	Ser	Leu	Lys	Lys	Glu	Gly	Glu	Arg	Gln	Cys	Phe	
				485					490					495		
Leu	Phe	Thr	Lys	His	Phe	Leu	Ile	Cys	Thr	Arg	Ser	Ser	Gly	Gly	Lys	
			500					505					510			
Leu	His	Leu	Leu	Lys	Thr	Gly	Gly	Val	Leu	Ser	Leu	Ile	Gln	Cys	Thr	
		515					520					525				
Leu	Ile	Glu	Glu	Pro	Asp	Gly	Ser	Asp	Asp	Asp	Pro	Lys	Gly	Ser	Gly	
	530					535					540					
His	Met	Phe	Gly	His	Leu	Asp	Phe	Lys	Ile	Val	Val	Glu	Pro	Pro	Asp	
545					550					555					560	
Ala	Ala	Ser	Phe	Thr	Val	Val	Leu	Leu	Ala	Pro	Ser	Arg	Gln	Glu	Lys	
				565					570					575		
Ala	Ala	Trp	Met	Ser	Asp	Ile	Ser	Gln	Cys	Val	Asp	Asn	Ile	Arg	Cys	
			580					585					590			
Asn	Gly	Leu	Met	Thr	Ile	Val	Phe	Glu	Glu	Asn	Ser	Lys	Val	Thr	Val	
		595					600					605				
Pro	His	Met	Ile	Lys	Ser	Asp	Ala	Arg	Leu	His	Lys	Asp	Asp	Thr	Asp	
	610					615					620					
Ile	Cys	Phe	Ser	Lys	Thr	Leu	Asn	Ser	Cys	Lys	Val	Pro	Gln	Ile	Arg	
625					630					635					640	
Tyr	Ala	Ser	Val	Glu	Ala	Leu	Leu	Glu	Arg	Leu	Thr	Asp	Leu	Arg	Phe	
				645					650					655		
Leu	Ser	Ile	Asp	Phe	Leu	Asn	Thr	Phe	Leu	His	Thr	Tyr	Arg	Ile	Phe	
			660					665					670			
Thr	Thr	Ala	Thr	Val	Val	Leu	Ala	Lys	Leu	Ser	Asp	Ile	Tyr	Lys	Arg	
		675					680					685				
Pro	Phe	Thr	Ser	Ile	Pro	Val	Arg	Ser	Leu	Glu	Leu	Phe	Phe	Ala	Thr	
	690					695					700					
Ser	Gln	Asn	Lys	Arg	Glu	His	Leu	Val	Asp	Gly	Lys	Ser	Pro	Arg	Leu	
705					710					715					720	
Cys	Arg	Lys	Phe	Ser	Ser	Pro	Pro	Pro	Leu	Ala	Val	Ser	Arg	Thr	Ser	
				725					730					735		
Ser	Pro	Val	Arg	Ala	Arg	Lys	Leu	Ser	Leu	Thr	Ser	Ser	Leu	Asn	Ser	
			740					745					750			
Arg	Ile	Gly	Ala	Leu	Asp	Leu	Thr	Asn	Ser	Ser	Ser	Ser	Ser	Ser	Pro	
		755					760					765				
Thr	Thr	Thr	Thr	His	Ser	Pro	Ala	Ala	Ser	Pro	Pro	Pro	His	Thr	Ala	
						775					780					



Val	Leu	Glu	Ser	Ala	Pro	Ala	Asp	Lys	Ala	Gly	Asp	Ser	Ala	Asp	Met	785	790	795	800
Ser	Pro	Cys	Arg	Ser	Pro	Thr	Thr	Pro	Arg	Ala	Ser	Ala	Ile	Gly	Arg	805	810	815	
Pro	Gly	Gly	Gln	Val	Ala	Asp	Ser	Ala	His	Cys	Ser	Val	Ser	Pro	Ala	820	825	830	
Ser	Ala	Phe	Ala	Ile	Ala	Thr	Ala	Ala	Ala	Gly	His	Gly	Ser	Pro	Pro	835	840	845	
Gly	Phe	Asn	Asn	Glu	Arg	Thr	Cys	Asp	Lys	Glu	Phe	Ile	Ile	Arg	Arg	850	855	860	
Thr	Ala	Thr	Asn	Arg	Val	Leu	Asn	Val	Leu	Arg	His	Trp	Val	Ser	Lys	865	870	875	880
His	Ala	Gln	Asp	Phe	Glu	Leu	Asn	Asn	Glu	Leu	Lys	Met	Asn	Val	Leu	885	890	895	
Asn	Leu	Leu	Glu	Glu	Val	Leu	Arg	Asp	Pro	Asp	Leu	Leu	Pro	Gln	Glu	900	905	910	
Arg	Lys	Ala	Thr	Ala	Asn	Ile	Leu	Arg	Ala	Leu	Ser	Gln	Asp	Asp	Gln	915	920	925	
Asp	Asp	Ile	His	Leu	Lys	Leu	Glu	Asp	Ile	Ile	Gln	Met	Thr	Asp	Cys	930	935	940	
Pro	Lys	Ala	Glu	Cys	Phe	Glu	Thr	Leu	Ser	Ala	Met	Glu	Leu	Ala	Glu	945	950	955	960
Gln	Ile	Thr	Leu	Leu	Asp	His	Ile	Val	Phe	Arg	Ser	Ile	Pro	Tyr	Glu	965	970	975	
Glu	Phe	Leu	Gly	Gln	Gly	Trp	Met	Lys	Leu	Asp	Lys	Asn	Glu	Arg	Thr	980	985	990	
Pro	Tyr	Ile	Met	Lys	Thr	Ser	Gln	His	Phe	Asn	Glu	Met	Ser	Asn	Leu	995	1000	1005	
Val	Ala	Ser	Gln	Ile	Met	Asn	Tyr	Ala	Asp	Ile	Ser	Ser	Arg	Pro	Asn	1010	1015	1020	
Ala	Ile	Glu	Lys	Trp	Val	Ala	Val	Ala	Asp	Ile	Cys	Arg	Cys	Leu	His	1025	1030	1035	1040
Asn	Tyr	Asn	Gly	Val	Leu	Glu	Ile	Thr	Ser	Ala	Leu	Asn	Arg	Ser	Pro	1045	1050	1055	
Ile	Tyr	Arg	Leu	Lys	Lys	Thr	Trp	Ala	Lys	Val	Ser	Lys	Gln	Thr	Lys	1060	1065	1070	
Ala	Leu	Met	Asp	Lys	Leu	Gln	Lys	Thr	Val	Ser	Ser	Glu	Gly	Arg	Phe	1075	1080	1085	

Lys Asn Leu Arg Glu Thr Leu Lys Asn Cys Asn Pro Pro Ala Val Pro  
 1090 1095 1100  
 Tyr Leu Gly Met Tyr Leu Thr Asp Leu Ala Phe Ile Glu Glu Gly Thr  
 1105 1110 1115 1120  
 Pro Asn Phe Thr Glu Glu Gly Leu Val Asn Phe Ser Lys Met Arg Met  
 1125 1130 1135  
 Ile Ser His Ile Ile Arg Glu Ile Arg Gln Phe Gln Gln Thr Ala Tyr  
 1140 1145 1150  
 Arg Ile Asp Gln Gln Pro Lys Val Ile Gln Tyr Leu Leu Asp Lys Ala  
 1155 1160 1165  
 Leu Val Ile Asp Glu Asp Ser Leu Tyr Glu Leu Ser Leu Lys Ile Glu  
 1170 1175 1180  
 Pro Arg Leu Pro Ala  
 1185  
  
 <210> 116  
 <211> 241  
 <212> PRT  
 <213> Homo sapiens  
  
 <400> 116  
 Leu Leu Leu Leu Asp Pro Lys Glu Leu Ala Glu Gln Leu Thr Leu Leu  
 1 5 10 15  
 Asp Phe Glu Leu Phe Arg Lys Ile Asp Pro Ser Glu Leu Leu Gly Ser  
 20 25 30  
 Val Trp Gly Lys Arg Ser Lys Lys Ser Pro Ser Pro Leu Asn Leu Glu  
 35 40 45  
 Arg Phe Ile Glu Arg Phe Asn Glu Val Ser Asn Trp Val Ala Thr Glu  
 50 55 60  
 Ile Leu Lys Gln Thr Thr Pro Lys Asp Arg Ala Glu Leu Leu Ser Lys  
 65 70 75 80  
 Phe Ile Gln Val Ala Lys His Cys Arg Glu Leu Asn Asn Phe Asn Ser  
 85 90 95  
 Leu Met Ala Ile Val Ser Ala Leu Ser Ser Ser Pro Ile Ser Arg Leu  
 100 105 110  
 Lys Lys Thr Trp Glu Lys Leu Pro Ser Lys Tyr Lys Lys Leu Phe Glu  
 115 120 125  
 Glu Leu Glu Glu Leu Leu Asp Pro Ser Arg Asn Phe Lys Asn Tyr Arg  
 130 135 140  
 Glu Ala Leu Ser Ser Cys Asn Leu Pro Pro Cys Ile Pro Phe Leu Gly  
 145 150 155 160

Val Leu Leu Lys Asp Leu Thr Phe Ile Asp Glu Gly Asn Pro Asp Phe  
 165 170 175  
 Leu Lys Asn Gly Leu Val Asn Phe Glu Lys Arg Arg Lys Ile Ala Lys  
 180 185 190  
 Ile Leu Arg Glu Ile Arg Gln Leu Gln Ser Gln Pro Tyr Asn Leu Arg  
 195 200 205  
 Pro Asn Arg Ser Asp Ile Gln Ser Leu Leu Gln Gln Ser Leu Asp Ser  
 210 215 220  
 Leu Pro Glu Glu Asn Glu Leu Tyr Glu Leu Ser Leu Arg Ile Glu Pro  
 225 230 235 240

Arg

<210> 117  
 <211> 187  
 <212> PRT  
 <213> Homo sapiens

<400> 117  
 Leu Leu Asp Pro Leu Glu Leu Ala Lys Gln Leu Thr Leu Leu Glu His  
 1 5 10 15  
 Glu Leu Phe Lys Lys Ile Asp Pro Phe Glu Cys Leu Gly Gln Val Trp  
 20 25 30  
 Gly Lys Lys Tyr Gly Lys Asn Glu Arg Ser Pro Asn Ile Asp Lys Thr  
 35 40 45  
 Ile Lys Asn Phe Asn Gln Leu Thr Asn Phe Val Gly Thr Thr Ile Leu  
 50 55 60  
 Leu Gln Thr Asp Pro Lys Lys Arg Ala Glu Leu Ile Gln Lys Phe Ile  
 65 70 75 80  
 Gln Val Ala Asp His Cys Arg Glu Leu Asn Asn Phe Asn Ser Leu Leu  
 85 90 95  
 Ala Ile Ile Ser Ala Leu Tyr Ser Ser Pro Ile Tyr Arg Leu Lys Lys  
 100 105 110  
 Thr Trp Gln Tyr Val Pro Pro Gln Ser Leu Lys Leu Phe Glu Glu Leu  
 115 120 125  
 Asn Lys Leu Met Asp Ser Asp Arg Asn Phe Ser Asn Tyr Arg Glu Leu  
 130 135 140  
 Leu Lys Ser Ile Phe Pro Leu Pro Cys Val Pro Phe Phe Gly Val Tyr  
 145 150 155 160  
 Leu Ser Asp Leu Thr Phe Leu Glu Glu Gly Asn Pro Asp Phe Leu Glu

	165		170		175					
Thr	Asn	Leu	Val	Asn	Phe	Ser	Lys	Arg	Arg	Lys
	180						185			

<210> 118  
 <211> 182  
 <212> PRT  
 <213> Homo sapiens

<400> 118  
 Val Leu Lys Glu Leu Leu Glu Thr Glu Lys Lys Tyr Val Arg Asp Leu  
 1 5 10 15  
 Glu Ile Leu Val Asn Val Tyr Met Lys Pro Leu Arg Glu Ala Ala Ile  
 20 25 30  
 Ser Lys Pro Val Leu Thr Pro Asp Asp Leu Glu Thr Ile Phe Ser Asn  
 35 40 45  
 Ile Asn Glu Ile Tyr Glu Phe His Arg Glu Phe Leu Lys Ser Leu Glu  
 50 55 60  
 Asp Arg Ile Ser Ser Ser Pro Ser Ala Pro Arg Leu Gly Asp Leu Phe  
 65 70 75 80  
 Leu Lys Leu Glu Pro Phe Leu Gln Ile Tyr Gly Glu Tyr Cys Ala Asn  
 85 90 95  
 Lys Pro Tyr Ala Gln Glu Leu Leu Glu Lys Cys Ser Ser Asn Pro Gln  
 100 105 110  
 Phe Ala Glu Phe Leu Asp Glu Val Glu Ala Ser Ser Asn Thr Gly Lys  
 115 120 125  
 Leu Thr Leu Gln Ser Leu Leu Leu Lys Pro Val Gln Arg Ile Pro Arg  
 130 135 140  
 Tyr Pro Leu Leu Leu Lys Glu Leu Leu Lys His Thr Pro Glu Asp Gln  
 145 150 155 160  
 Pro Asp Arg Glu Asp Leu Lys Lys Ala Leu Asp Leu Leu Gln Asp Leu  
 165 170 175  
 Ala Lys Ser Ile Asn Glu  
 180

<210> 119  
 <211> 181  
 <212> PRT  
 <213> Homo sapiens

<400> 119  
 Val Leu Lys Glu Leu Leu Gln Thr Glu Arg Asn Tyr Val Arg Asp Leu  
 1 5 10 15

Lys Ile Leu Val Glu Val Phe Leu Lys Pro Leu Lys Lys Glu Ala Lys  
                   20                  25                  30  
 Leu Leu Ser Pro Asp Glu Val Glu Thr Leu Phe Gly Asn Ile Glu Glu  
                   35                  40                  45  
 Ile Tyr Glu Phe His Arg Ile Phe Leu Asp Glu Leu Glu Lys Arg Val  
                   50                  55                  60  
 Glu Glu Trp Asp Asp Ser Gly Asp Arg Ile Gly Asp Val Phe Leu Lys  
                   65                  70                  75                  80  
 Leu Glu Glu Leu Phe Lys Ile Tyr Ser Glu Tyr Cys Ser Asn His Pro  
                   85                  90                  95  
 Asp Ala Leu Glu Leu Leu Lys Lys Leu Lys Lys Lys Asn Lys Arg Phe  
                   100                  105                  110  
 Gln Lys Phe Leu Lys Glu Ile Glu Ser Asn Pro Asn Cys Arg Arg Leu  
                   115                  120                  125  
 Glu Leu Glu Ser Leu Leu Leu Lys Pro Val Gln Arg Leu Thr Lys Tyr  
                   130                  135                  140  
 Pro Leu Leu Leu Lys Glu Leu Leu Lys His Thr Pro Pro Asp His Glu  
                   145                  150                  155                  160  
 Asp Arg Glu Asp Leu Lys Lys Ala Leu Asp Ala Ile Lys Glu Leu Ala  
                   165                  170                  175  
 Ser Gln Val Asn Glu  
                   180

<210> 120

<211> 54

<212> PRT

<213> Homo sapiens

<400> 120

Tyr Asp Lys Val Gly Ser Ile Lys Gly Gly Thr Leu Glu Ala Leu Ile  
           1                  5                  10                  15

Glu Tyr Leu Thr Asp Leu Glu Ser Glu Asp Leu Phe Phe Val Glu Thr  
                   20                  25                  30

Phe Leu Leu Thr Tyr Arg Ser Phe Ile Thr Thr Gln Glu Leu Leu Asp  
                   35                  40                  45

Leu Leu Ile Ser Arg Tyr  
           50

<210> 121

<211> 102

<212> PRT

<213> Homo sapiens

<400> 121

Ile Lys Glu Gly Trp Leu Leu Lys Lys Ser Ser Gly Gly Lys Lys Ser  
1 5 10 15  
Trp Lys Lys Arg Tyr Phe Val Leu Phe Asn Gly Val Leu Leu Tyr Tyr  
20 25 30  
Lys Ser Lys Lys Lys Lys Ser Ser Ser Lys Pro Lys Gly Ser Ile Pro  
35 40 45  
Leu Ser Gly Cys Thr Val Arg Glu Ala Pro Asp Ser Asp Ser Asp Lys  
50 55 60  
Lys Lys Asn Cys Phe Glu Ile Val Thr Pro Asp Arg Lys Thr Leu Leu  
65 70 75 80  
Leu Gln Ala Glu Ser Glu Glu Glu Arg Lys Glu Trp Val Glu Ala Leu  
85 90 95  
Arg Lys Ala Ile Ala Lys  
100

<210> 122

<211> 155

<212> PRT

<213> Homo sapiens

<400> 122

Met Val Leu Ser Gly Ala Leu Cys Phe Arg Met Lys Asp Ser Ala Leu  
1 5 10 15  
Lys Val Leu Tyr Leu His Asn Asn Gln Leu Leu Ala Gly Gly Leu His  
20 25 30  
Ala Gly Lys Val Ile Lys Gly Glu Glu Ile Ser Val Val Pro Asn Arg  
35 40 45  
Trp Leu Asp Ala Ser Leu Ser Pro Val Ile Leu Gly Val Gln Gly Gly  
50 55 60  
Ser Gln Cys Leu Ser Cys Gly Val Gly Gln Glu Pro Thr Leu Thr Leu  
65 70 75 80  
Glu Pro Val Asn Ile Met Glu Leu Tyr Leu Gly Ala Lys Glu Ser Lys  
85 90 95  
Ser Phe Thr Phe Tyr Arg Arg Asp Met Gly Leu Thr Ser Ser Phe Glu  
100 105 110  
Ser Ala Ala Tyr Pro Gly Trp Phe Leu Cys Thr Val Pro Glu Ala Asp  
115 120 125  
Gln Pro Val Arg Leu Thr Gln Leu Pro Glu Asn Gly Gly Trp Asn Ala  
130 135 140

Pro Ile Thr Asp Phe Tyr Phe Gln Gln Cys Asp  
 145 150 155

<210> 123

<211> 155

<212> PRT

<213> Mus musculus

<400> 123

Met Val Leu Ser Gly Ala Leu Cys Phe Arg Met Lys Asp Ser Ala Leu  
 1 5 10 15

Lys Val Leu Tyr Leu His Asn Asn Gln Leu Leu Ala Gly Gly Leu His  
 20 25 30

Ala Glu Lys Val Ile Lys Gly Glu Glu Ile Ser Val Val Pro Asn Arg  
 35 40 45

Ala Leu Asp Ala Ser Leu Ser Pro Val Ile Leu Gly Val Gln Gly Gly  
 50 55 60

Ser Gln Cys Leu Ser Cys Gly Thr Glu Lys Gly Pro Ile Leu Lys Leu  
 65 70 75 80

Glu Pro Val Asn Ile Met Glu Leu Tyr Leu Gly Ala Lys Glu Ser Lys  
 85 90 95

Ser Phe Thr Phe Tyr Arg Arg Asp Met Gly Leu Thr Ser Ser Phe Glu  
 100 105 110

Ser Ala Ala Tyr Pro Gly Trp Phe Leu Cys Thr Ser Pro Glu Ala Asp  
 115 120 125

Gln Pro Val Arg Leu Thr Gln Ile Pro Glu Asp Pro Ala Trp Asp Ala  
 130 135 140

Pro Ile Thr Asp Phe Tyr Phe Gln Gln Cys Asp  
 145 150 155

<210> 124

<211> 156

<212> PRT

<213> Mus musculus

<400> 124

Met Met Val Leu Ser Gly Ala Leu Cys Phe Arg Met Lys Asp Ser Ala  
 1 5 10 15

Leu Lys Val Leu Tyr Leu His Asn Asn Gln Leu Leu Ala Gly Gly Leu  
 20 25 30

His Ala Glu Lys Val Ile Lys Gly Glu Glu Ile Ser Val Val Pro Asn  
 35 40 45

Arg Ala Leu Asp Ala Ser Leu Ser Pro Val Ile Leu Gly Val Gln Gly  
 50 55 60  
 Gly Ser Gln Cys Leu Ser Cys Gly Thr Glu Lys Gly Pro Ile Leu Lys  
 65 70 75 80  
 Leu Glu Pro Val Asn Ile Met Glu Leu Tyr Leu Gly Ala Lys Glu Ser  
 85 90 95  
 Lys Ser Phe Thr Phe Tyr Arg Arg Asp Met Gly Leu Thr Ser Ser Phe  
 100 105 110  
 Glu Ser Ala Ala Tyr Pro Gly Trp Phe Leu Cys Thr Ser Pro Glu Ala  
 115 120 125  
 Asp Gln Pro Val Arg Leu Thr Gln Ile Pro Glu Asp Pro Ala Trp Asp  
 130 135 140  
 Ala Pro Ile Thr Asp Phe Tyr Phe Gln Gln Cys Asp  
 145 150 155

<210> 125  
 <211> 152  
 <212> PRT  
 <213> Homo sapiens

<400> 125  
 Met Cys Ser Leu Pro Met Ala Arg Tyr Tyr Ile Ile Lys Tyr Ala Asp  
 1 5 10 15  
 Gln Lys Ala Leu Tyr Thr Arg Asp Gly Gln Leu Leu Val Gly Asp Pro  
 20 25 30  
 Val Ala Asp Asn Cys Cys Ala Glu Lys Ile Cys Ile Leu Pro Asn Arg  
 35 40 45  
 Gly Leu Ala Arg Thr Lys Val Pro Ile Phe Leu Gly Ile Gln Gly Gly  
 50 55 60  
 Ser Arg Cys Leu Ala Cys Val Glu Thr Glu Glu Gly Pro Ser Leu Gln  
 65 70 75 80  
 Leu Glu Asp Val Asn Ile Glu Glu Leu Tyr Lys Gly Gly Glu Glu Ala  
 85 90 95  
 Thr Arg Phe Thr Phe Phe Gln Ser Ser Ser Gly Ser Ala Phe Arg Leu  
 100 105 110  
 Glu Ala Ala Ala Trp Pro Gly Trp Phe Leu Cys Gly Pro Ala Glu Pro  
 115 120 125  
 Gln Gln Pro Val Gln Leu Thr Lys Glu Ser Glu Pro Ser Ala Arg Thr  
 130 135 140  
 Lys Phe Tyr Phe Glu Gln Ser Trp  
 145 150



<210> 126  
 <211> 152  
 <212> PRT  
 <213> Homo sapiens

<400> 126  
 Met Cys Ser Leu Pro Met Ala Arg Tyr Tyr Ile Ile Lys Tyr Ala Asp  
     1                    5                    10                    15  
 Gln Lys Ala Leu Tyr Thr Arg Asp Gly Gln Leu Leu Val Gly Asp Pro  
                     20                    25                    30  
 Val Ala Asp Asn Cys Cys Ala Glu Lys Ile Cys Thr Leu Pro Asn Arg  
                     35                    40                    45  
 Gly Leu Asp Arg Thr Lys Val Pro Ile Phe Leu Gly Ile Gln Gly Gly  
                     50                    55                    60  
 Ser Arg Cys Leu Ala Cys Val Glu Thr Glu Glu Gly Pro Ser Leu Gln  
                     65                    70                    75                    80  
 Leu Glu Asp Val Asn Ile Glu Glu Leu Tyr Lys Gly Gly Glu Glu Ala  
                     85                    90                    95  
 Thr Arg Phe Thr Phe Phe Gln Ser Ser Ser Gly Ser Ala Phe Arg Leu  
                     100                    105                    110  
 Glu Ala Ala Ala Trp Pro Gly Trp Phe Leu Cys Gly Pro Ala Glu Pro  
                     115                    120                    125  
 Gln Gln Pro Val Gln Leu Thr Lys Glu Ser Glu Pro Ser Ala Arg Thr  
                     130                    135                    140  
 Lys Phe Tyr Phe Glu Gln Ser Trp  
     145                    150

<210> 127  
 <211> 143  
 <212> PRT  
 <213> Homo sapiens

<400> 127  
 Phe Arg Leu Asn Asp Ala Asn Gln Lys Ser Leu Val Leu Ala Asn Pro  
     1                    5                    10                    15  
 Gln Tyr Leu Lys Ala Leu His Leu Gln Gly Gln Asn Leu Asn Gln Glu  
                     20                    25                    30  
 Val Lys Phe Asp Met Ser Phe Val Gln Gly Glu Glu Glu Asp Ser Lys  
                     35                    40                    45  
 Ile Pro Val Thr Leu Gly Ile Lys Lys Lys Asn Leu Tyr Leu Ser Cys  
                     50                    55                    60

Val Lys Lys Gly Asp Lys Pro Thr Leu Gln Leu Glu Met Val Asp Pro  
65 70 75 80

Lys Lys Tyr Pro Lys Asn Lys Glu Met Glu Lys Arg Phe Val Phe Glu  
85 90 95

Lys His Glu Ile Gly Asn Lys Asn Glu Phe Glu Ser Ala Ala Tyr Pro  
100 105 110

Asn Trp Phe Ile Ser Thr Ser Gln Glu Glu Asp Arg Pro Val Phe Leu  
115 120 125

Gly Asn Gly Pro Pro Gly Gln Asp Ile Thr Asp Phe Gln Met Gln  
130 135 140

<210> 128  
<211> 140  
<212> PRT  
<213> Homo sapiens

<400> 128  
Leu Asn Asp Ala Asn Gln Lys Ser Leu Val Leu Ala Asn Pro Asn Tyr  
1 5 10 15

Leu Lys Ala Leu His Leu Asn Gly Leu Asn Gln Glu Val Lys Phe Asp  
20 25 30

Met Ser Phe Val Gln Gly Glu Pro His Asp Ser Lys Ile Pro Val Thr  
35 40 45

Leu Gly Ile Ser Gly Thr Asn Leu Tyr Leu Ser Cys Val Lys Glu Gly  
50 55 60

Asp Glu Pro Val Leu Gln Leu Glu Met Val Glu Pro Pro Lys Tyr Ile  
65 70 75 80

Lys Asn Ser Glu Met Asp Lys Arg Phe Phe Phe Glu Lys Thr Glu Ile  
85 90 95

Gly Ser Lys Val Tyr Phe Glu Ser Ala Ala Tyr Pro Asn Trp Phe Ile  
100 105 110

Ala Thr Lys Gln Glu Glu Asp Arg Pro Val Phe Leu Ala Asn Gly Pro  
115 120 125

Pro Glu Ser Asp Ile Thr Asp Phe Gln Ile Glu Glu  
130 135 140

<210> 129  
<211> 522  
<212> PRT  
<213> Homo sapiens

<400> 129  
Met Ser Leu Leu Asn Cys Glu Asn Ser Cys Gly Ser Ser Gln Ser Glu

1	5	10	15
Ser Asp Cys Cys Val Ala Met Ala Ser Ser Cys Ser Ala Val Thr Lys	20	25	30
Asp Asp Ser Val Gly Gly Thr Ala Ser Thr Gly Asn Leu Ser Ser Ser	35	40	45
Phe Met Glu Glu Ile Gln Gly Tyr Asp Val Glu Phe Asp Pro Pro Leu	50	55	60
Glu Ser Lys Tyr Glu Cys Pro Ile Cys Leu Met Ala Leu Arg Glu Ala	65	70	75
Val Gln Thr Pro Cys Gly His Arg Phe Cys Lys Ala Cys Ile Ile Lys	85	90	95
Ser Ile Arg Asp Ala Gly His Lys Cys Pro Val Asp Asn Glu Ile Leu	100	105	110
Leu Glu Asn Gln Leu Phe Pro Asp Asn Phe Ala Lys Arg Glu Ile Leu	115	120	125
Ser Leu Met Val Lys Cys Pro Asn Glu Gly Cys Leu His Lys Met Glu	130	135	140
Leu Arg His Leu Glu Asp His Gln Ala His Cys Glu Phe Ala Leu Met	145	150	155
Asp Cys Pro Gln Cys Gln Arg Pro Phe Gln Lys Phe His Ile Asn Ile	165	170	175
His Ile Leu Lys Asp Cys Pro Arg Arg Gln Val Ser Cys Asp Asn Cys	180	185	190
Ala Ala Ser Met Ala Phe Glu Asp Lys Glu Ile His Asp Gln Asn Cys	195	200	205
Pro Leu Ala Asn Val Ile Cys Glu Tyr Cys Asn Thr Ile Leu Ile Arg	210	215	220
Glu Gln Met Pro Asn His Tyr Asp Leu Asp Cys Pro Thr Ala Pro Ile	225	230	235
Pro Cys Thr Phe Ser Thr Phe Gly Cys His Glu Lys Met Gln Arg Asn	245	250	255
His Leu Ala Arg His Leu Gln Glu Asn Thr Gln Ser His Met Arg Met	260	265	270
Leu Ala Gln Ala Val His Ser Leu Ser Val Ile Pro Asp Ser Gly Tyr	275	280	285
Ile Ser Glu Val Arg Asn Phe Gln Glu Thr Ile His Gln Leu Glu Gly	290	295	300
Arg Leu Val Arg Gln Asp His Gln Ile Arg Glu Leu Thr Ala Lys Met			

305		310		315		320
Glu Thr Gln Ser Met Tyr Val Ser Glu Leu Lys Arg Thr Ile Arg Thr						
	325			330		335
Leu Glu Asp Lys Val Ala Glu Ile Glu Ala Gln Gln Cys Asn Gly Ile						
	340			345		350
Tyr Ile Trp Lys Ile Gly Asn Phe Gly Met His Leu Lys Cys Gln Glu						
	355			360		365
Glu Glu Lys Pro Val Val Ile His Ser Pro Gly Phe Tyr Thr Gly Lys						
	370			375		380
Pro Gly Tyr Lys Leu Cys Met Arg Leu His Leu Gln Leu Pro Thr Ala						
	385			390		395
Gln Arg Cys Ala Asn Tyr Ile Ser Leu Phe Val His Thr Met Gln Gly						
	405			410		415
Glu Tyr Asp Ser His Leu Pro Trp Pro Phe Gln Gly Thr Ile Arg Leu						
	420			425		430
Thr Ile Leu Asp Gln Ser Glu Ala Pro Val Arg Gln Asn His Glu Glu						
	435			440		445
Ile Met Asp Ala Lys Pro Glu Leu Leu Ala Phe Gln Arg Pro Thr Ile						
	450			455		460
Pro Arg Asn Pro Lys Gly Phe Gly Tyr Val Thr Phe Met His Leu Glu						
	465			470		475
Ala Leu Arg Gln Arg Thr Phe Ile Lys Asp Asp Thr Leu Leu Val Arg						
	485			490		495
Cys Glu Val Ser Thr Arg Phe Asp Met Gly Ser Leu Arg Arg Glu Gly						
	500			505		510
Phe Gln Pro Arg Ser Thr Asp Ala Gly Val						
	515			520		

<210> 130

<211> 522

<212> PRT

<213> Homo sapiens

<400> 130

Met Ser Leu Leu Asn Cys Glu Asn Ser Cys Gly Ser Ser Gln Ser Glu
1 5 10 15

Ser Asp Cys Cys Val Ala Met Ala Ser Ser Cys Ser Ala Val Thr Lys
20 25 30

Asp Asp Ser Val Gly Gly Thr Ala Ser Thr Gly Asn Leu Ser Ser Ser
35 40 45

Phe Met Glu Glu Ile Gln Gly Tyr Asp Val Glu Phe Asp Pro Pro Leu  
50 55 60  
Glu Ser Lys Tyr Glu Cys Pro Ile Cys Leu Met Ala Leu Arg Glu Ala  
65 70 75 80  
Val Gln Thr Pro Cys Gly His Arg Phe Cys Lys Ala Cys Ile Ile Lys  
85 90 95  
Ser Ile Arg Asp Ala Gly His Lys Cys Pro Val Asp Asn Glu Ile Leu  
100 105 110  
Leu Glu Asn Gln Leu Phe Pro Asp Asn Phe Ala Lys Arg Glu Ile Leu  
115 120 125  
Ser Leu Met Val Lys Cys Pro Asn Glu Gly Cys Leu His Lys Met Glu  
130 135 140  
Leu Arg His Leu Glu Asp His Gln Ala His Cys Glu Phe Ala Leu Met  
145 150 155 160  
Asp Cys Pro Gln Cys Gln Arg Pro Phe Gln Lys Phe His Ile Asn Ile  
165 170 175  
His Ile Leu Lys Asp Cys Pro Arg Arg Gln Val Ser Cys Asp Asn Cys  
180 185 190  
Ala Ala Ser Met Ala Phe Glu Asp Lys Glu Ile His Asp Gln Asn Cys  
195 200 205  
Pro Leu Ala Asn Val Ile Cys Glu Tyr Cys Asn Thr Ile Leu Ile Arg  
210 215 220  
Glu Gln Met Pro Asn His Tyr Asp Leu Asp Cys Pro Thr Ala Pro Ile  
225 230 235 240  
Pro Cys Thr Phe Ser Thr Phe Gly Cys His Glu Lys Met Gln Arg Asn  
245 250 255  
His Leu Ala Arg His Leu Gln Glu Asn Thr Gln Ser His Met Arg Met  
260 265 270  
Leu Ala Gln Pro Val His Ser Leu Ser Val Ile Pro Asp Ser Gly Tyr  
275 280 285  
Ile Ser Glu Val Arg Asn Phe Gln Glu Thr Ile His Gln Leu Glu Gly  
290 295 300  
Arg Leu Val Arg Gln Asp His Gln Ile Arg Glu Leu Thr Ala Lys Met  
305 310 315 320  
Glu Thr Gln Ser Met Tyr Val Ser Glu Leu Lys Arg Thr Ile Arg Thr  
325 330 335  
Leu Glu Asp Lys Val Ala Glu Ile Glu Ala Gln Gln Cys Asn Gly Ile  
340 345 350

Tyr Ile Trp Lys Ile Gly Asn Phe Gly Met His Leu Lys Cys Gln Glu  
 355 360 365  
 Glu Glu Lys Pro Val Val Ile His Ser Pro Gly Phe Tyr Thr Gly Lys  
 370 375 380  
 Pro Gly Tyr Lys Leu Cys Met Arg Leu His Leu Gln Leu Pro Thr Ala  
 385 390 395 400  
 Gln Arg Cys Ala Asn Tyr Ile Ser Leu Phe Val His Thr Met Gln Gly  
 405 410 415  
 Glu Tyr Asp Ser His Leu Pro Trp Pro Phe Gln Gly Thr Ile Arg Leu  
 420 425 430  
 Thr Ile Leu Asp Gln Ser Glu Ala Pro Val Arg Gln Asn His Glu Glu  
 435 440 445  
 Ile Met Asp Ala Lys Pro Glu Leu Leu Ala Phe Gln Arg Pro Thr Ile  
 450 455 460  
 Pro Arg Asn Pro Lys Gly Phe Gly Tyr Val Thr Phe Met His Leu Glu  
 465 470 475 480  
 Ala Leu Arg Gln Arg Thr Phe Ile Lys Asp Asp Thr Leu Leu Val Arg  
 485 490 495  
 Cys Glu Val Ser Thr Arg Phe Asp Met Gly Ser Leu Arg Arg Glu Gly  
 500 505 510  
 Phe Gln Pro Arg Ser Thr Asp Ala Gly Val  
 515 520

<210> 131

<211> 530

<212> PRT

<213> Mus musculus

<400> 131

Met Ser Leu Leu Asn Cys Glu Asn Ser Cys Gly Ser Ser Gln Ser Ser  
 1 5 10 15  
 Ser Asp Cys Cys Ala Ala Met Ala Ala Ser Cys Ser Ala Ala Val Lys  
 20 25 30  
 Asp Asp Ser Val Ser Gly Ser Ala Ser Thr Gly Asn Leu Ser Ser Ser  
 35 40 45  
 Phe Met Glu Glu Ile Gln Gly Tyr Asp Val Glu Phe Asp Pro Pro Leu  
 50 55 60  
 Glu Ser Lys Tyr Glu Cys Pro Ile Cys Leu Met Ala Leu Arg Glu Ala  
 65 70 75 80  
 Val Gln Thr Pro Cys Gly His Arg Phe Cys Lys Ala Cys Ile Ile Lys  
 85 90 95

Ser	Ile	Arg	Asp	Ala	Gly	His	Lys	Cys	Pro	Val	Asp	Asn	Glu	Ile	Leu	100	105	110
Leu	Glu	Asn	Gln	Leu	Phe	Pro	Asp	Asn	Phe	Ala	Lys	Arg	Glu	Ile	Leu	115	120	125
Ser	Leu	Thr	Val	Lys	Cys	Pro	Asn	Lys	Gly	Cys	Leu	Gln	Lys	Met	Glu	130	135	140
Leu	Arg	His	Leu	Glu	Asp	His	Gln	Val	His	Cys	Glu	Phe	Ala	Leu	Val	145	150	155
Asn	Cys	Pro	Gln	Cys	Gln	Arg	Pro	Phe	Gln	Lys	Cys	Gln	Val	Asn	Thr	165	170	175
His	Ile	Ile	Glu	Asp	Cys	Pro	Arg	Arg	Gln	Val	Ser	Cys	Val	Asn	Cys	180	185	190
Ala	Val	Ser	Met	Ala	Tyr	Glu	Glu	Lys	Glu	Ile	His	Asp	Gln	Ser	Cys	195	200	205
Pro	Leu	Ala	Asn	Ile	Ile	Cys	Glu	Tyr	Cys	Gly	Thr	Ile	Leu	Ile	Arg	210	215	220
Glu	Gln	Met	Pro	Asn	His	Tyr	Asp	Leu	Asp	Cys	Pro	Thr	Ala	Pro	Ile	225	230	235
Pro	Cys	Thr	Phe	Ser	Val	Phe	Gly	Cys	His	Gln	Lys	Met	Gln	Arg	Asn	245	250	255
His	Leu	Ala	Arg	His	Leu	Gln	Glu	Asn	Thr	Gln	Leu	His	Met	Arg	Leu	260	265	270
Leu	Ala	Gln	Ala	Val	His	Asn	Val	Asn	Leu	Ala	Leu	Arg	Pro	Cys	Asp	275	280	285
Ala	Ala	Ser	Pro	Ser	Arg	Gly	Cys	Arg	Pro	Glu	Asp	Pro	Asn	Tyr	Glu	290	295	300
Glu	Thr	Ile	Lys	Gln	Leu	Glu	Ser	Arg	Leu	Val	Arg	Gln	Asp	His	Gln	305	310	315
Ile	Arg	Glu	Leu	Thr	Ala	Lys	Met	Glu	Thr	Gln	Ser	Met	Tyr	Val	Gly	325	330	335
Glu	Leu	Lys	Arg	Thr	Ile	Arg	Thr	Leu	Glu	Asp	Lys	Val	Ala	Glu	Met	340	345	350
Glu	Ala	Gln	Gln	Cys	Asn	Gly	Ile	Tyr	Ile	Trp	Lys	Ile	Gly	Lys	Phe	355	360	365
Gly	Met	His	Leu	Lys	Ser	Gln	Glu	Glu	Glu	Arg	Pro	Val	Val	Ile	His	370	375	380
Ser	Pro	Gly	Phe	Tyr	Thr	Gly	Arg	Pro	Gly	Tyr	Lys	Leu	Cys	Met	Arg	385	390	395

Leu His Leu Gln Leu Pro Thr Ala Gln Arg Cys Ala Asn Tyr Ile Ser  
 405 410 415  
 Leu Phe Val His Thr Met Gln Gly Glu Tyr Asp Ser His Leu Pro Trp  
 420 425 430  
 Pro Phe Gln Gly Thr Ile Arg Leu Thr Ile Leu Asp Gln Ser Glu Ala  
 435 440 445  
 Leu Ile Arg Gln Asn His Glu Glu Val Met Asp Ala Lys Pro Glu Leu  
 450 455 460  
 Leu Ala Phe Gln Arg Pro Thr Ile Pro Arg Asn Pro Lys Gly Phe Gly  
 465 470 475 480  
 Tyr Val Thr Phe Met His Leu Glu Ala Leu Arg Gln Gly Thr Phe Ile  
 485 490 495  
 Lys Asp Asp Thr Leu Leu Val Arg Cys Glu Val Ser Thr Arg Phe Asp  
 500 505 510  
 Met Gly Gly Leu Arg Lys Glu Gly Phe Gln Pro Arg Ser Thr Asp Ala  
 515 520 525  
 Gly Val  
 530

<210> 132  
 <211> 399  
 <212> PRT  
 <213> Homo sapiens

<400> 132

Met Arg Arg Asn His Leu Ala Arg His Leu Gln Glu Asn Thr Gln Ser  
 1 5 10 15  
 Asn Met Arg Met Leu Ala Gln Ala Val His Ser Leu Ser Leu Ile Pro  
 20 25 30  
 Asp Ser Gly Tyr Ile Ser Glu Val Arg Asn Phe Gln Glu Ser Ile His  
 35 40 45  
 Gln Leu Glu Gly Arg Leu Val Arg Gln Cys His Gln Ile Arg Glu Leu  
 50 55 60  
 Thr Asp Lys Met Glu Thr Gln Ser Met Tyr Val Ser Glu Leu Lys Arg  
 65 70 75 80  
 Thr Ile Arg Thr Leu Glu Asp Lys Val Ala Glu Ile Glu Ala Gln Gln  
 85 90 95  
 Cys Asn Gly Ile Tyr Ile Trp Lys Ile Gly Asn Glu Phe Glu Ile Pro  
 100 105 110  
 Gly Phe Tyr Thr Gly Lys His Arg Tyr Lys Leu Cys Met Arg Leu His



115					120					125					
Leu	Pro	Leu	Pro	Thr	Ala	Gln	Arg	Cys	Ala	Asn	Tyr	Ile	Ser	Leu	Phe
130						135					140				
Val	His	Thr	Met	Gln	Gly	Glu	Tyr	Asp	Ser	His	Leu	Pro	Trp	Pro	Phe
145				150						155					160
Gln	Asp	Thr	Ile	Cys	Leu	Thr	Ile	Leu	Asp	Gln	Ser	Gln	Ala	Pro	Arg
				165					170					175	
Pro	Thr	Ile	Pro	Arg	Asn	Pro	Lys	Gly	Phe	Gly	Tyr	Val	Thr	Phe	Met
			180					185					190		
His	Leu	Glu	Ala	Leu	Arg	Gln	Arg	Thr	Phe	Ile	Lys	Asp	Asp	Thr	Leu
		195					200					205			
Leu	Val	His	Cys	Glu	Val	Ser	Thr	Arg	Phe	Asp	Met	Asp	Ser	Leu	Gln
	210					215					220				
Arg	Glu	Gly	Phe	Gln	Pro	Gln	Ser	Thr	Asp	Ala	Gly	Tyr	Thr	Glu	Lys
225				230						235					240
Gly	Leu	Asp	Gly	Pro	Glu	Leu	Lys	Leu	Gly	Cys	Thr	Glu	Leu	Leu	Ser
				245					250					255	
Lys	Lys	Lys	Gln	Thr	Leu	Met	Gln	Lys	Ser	Ile	Pro	His	Thr	Ser	Pro
			260				265						270		
His	Lys	His	Val	Ser	Val	Val	Ala	Pro	Val	Pro	Leu	Ser	Pro	Lys	Ile
		275					280					285			
Val	Cys	Ile	Tyr	Trp	Ala	Leu	Ile	Leu	Gln	Ser	Asn	Glu	Val	Thr	Ile
	290					295					300				
Thr	Glu	Asp	Lys	Phe	Asn	Asn	Leu	Ile	Lys	Ala	Ala	Ala	Val	Thr	Val
305				310						315					320
Glu	Pro	Phe	Trp	Pro	Ser	Phe	Phe	Ala	Lys	Ala	Leu	Ala	Ser	Val	Asn
				325					330					335	
Ile	Gly	Ser	Leu	Leu	Cys	Asn	Ala	Gly	Val	Gly	Arg	Trp	Leu	Gln	Gln
			340					345					350		
Pro	Ala	Pro	His	Lys	Gln	Glu	Val	Leu	Pro	Leu	Pro	Pro	Leu	Leu	Pro
		355					360					365			
Gln	Leu	Arg	Arg	Gly	Lys	Trp	Lys	Gln	Lys	Lys	Lys	Asn	Leu	Arg	Ser
	370					375					380				
Leu	Thr	Arg	Thr	Trp	Ala	Leu	Val	Phe	Leu	Thr	Lys	Leu	Val	Leu	
385					390					395					

<210> 133  
 <211> 225  
 <212> PRT

<213> Homo sapiens

<400> 133

Met Trp Leu Leu Asn Glu Lys Trp Ser Val Val Leu Asp Thr Tyr Ser  
1 5 10 15  
Leu Lys Ser Asn Cys His Leu Glu Cys Val Leu Pro Ser Trp Ser Glu  
20 25 30  
His Leu Arg Tyr Ile Ser Lys Val Ala Gln Tyr Ile His Pro Tyr Tyr  
35 40 45  
Pro Asp Glu Ile Leu Arg Asn Ser Val Ser Ser Ala Val Val Val Leu  
50 55 60  
Ser His His His Arg His His Cys Phe Arg Lys Glu Asp Gln Val Gly  
65 70 75 80  
Ala Pro Trp Leu Ser Arg Val Val Arg Leu Pro Ala Trp Phe Gly Arg  
85 90 95  
Pro Pro Arg Ala Leu Glu Arg Ala Ser Asp Asn Gln Val Thr Ile Ser  
100 105 110  
Leu Leu Asn Cys Glu Asn Arg Cys Gly Ser Ser Gln Ser Gln Ser Asp  
115 120 125  
Tyr Cys Val Ala Met Ala Ser Ser Cys Ser Ala Ala Thr Lys Asn Asp  
130 135 140  
Ser Val Gly Arg Thr Ala Ser Thr Gly Asn Leu Phe Ser Ser Phe Met  
145 150 155 160  
Glu Glu Ile Gln Gly Tyr Asp Val Glu Phe Gly Pro Pro Leu Glu Ser  
165 170 175  
Lys Tyr Glu Cys Pro Ile Cys Leu Met Ala Leu Arg Glu Ala Val Gln  
180 185 190  
Thr Pro Cys Ser His Arg Phe Cys Lys Ala Cys Ile Ile Lys Ser Ile  
195 200 205  
Arg Asp Ala Gly His Lys Tyr Pro Val Asp Asn Glu Ile Leu Leu Glu  
210 215 220  
Asn  
225

<210> 134

<211> 106

<212> PRT

<213> Homo sapiens

<400> 134

Lys Glu Gly Glu Glu Tyr Tyr Thr Ser Pro Val Glu Glu Arg Phe Gly  
1 5 10 15

Ile Pro Trp Arg Leu Arg Ile Tyr Arg Asn Gly Gly Phe Leu Gly Leu  
                     20                    25                    30  
 Tyr Leu His Cys Leu Lys Gly Glu Lys Asp Ser Asn Leu Lys Trp Ser  
                     35                    40                    45  
 Ile Glu Ala Glu Phe Thr Leu Lys Leu Val Ser Asp Asn Gly Lys Ser  
                     50                    55                    60  
 Leu Thr Lys Lys Pro Lys His Val Phe Glu Lys Pro Thr Gly Glu Gly  
                     65                    70                    75                    80  
 Trp Gly Lys Phe Ile Ser Trp Asp Asp Leu Glu Asp Asp Tyr Leu Val  
                     85                    90                    95  
 Asp Asp Thr Leu Ile Ile Glu Ala Glu Val  
                     100                    105

<210> 135  
 <211> 57  
 <212> PRT  
 <213> Homo sapiens

<400> 135  
 His Glu Lys Thr Cys Pro Phe Val Pro Val Pro Cys Pro Asn Lys Cys  
                     1                    5                    10                    15  
 Gly Lys Lys Ile Leu Arg Glu Asp Leu Pro Asp His Leu Ser Ala Asp  
                     20                    25                    30  
 Cys Pro Lys Arg Pro Val Pro Cys Pro Phe Lys Val Tyr Gly Cys Lys  
                     35                    40                    45  
 Val Asp Met Val Arg Glu Asn Leu Gln  
                     50                    55

<210> 136  
 <211> 98  
 <212> PRT  
 <213> Homo sapiens

<400> 136  
 Ser His Thr Phe Lys Asn Val Ser Lys Phe Glu Glu Gly Glu Ser Tyr  
                     1                    5                    10                    15  
 Phe Ser Pro Ser Glu Glu His Phe Asn Ile Pro Trp Arg Leu Lys Ile  
                     20                    25                    30  
 Tyr Arg Lys Asn Gly Phe Leu Ser Leu Tyr Leu His Cys Glu Lys Glu  
                     35                    40                    45  
 Glu Asn Asp Ser Arg Lys Trp Ser Ile Glu Ala Glu Phe Thr Leu Lys  
                     50                    55                    60

Leu Val Ser Gln Asn Gly Lys Ser Leu Ser Lys Lys Asp Thr His Val  
65 70 75 80

Phe Glu Lys Pro Gly Gly Trp Gly Phe Ser Lys Phe Ile Ser Trp Asp  
85 90 95

Asp Leu

<210> 137

<211> 36

<212> PRT

<213> Homo sapiens

<400> 137

Cys Pro Ile Cys Leu Glu Glu Tyr Leu Lys Asp Pro Val Val Leu Pro  
1 5 10 15

Cys Gly His Thr Phe Cys Arg Ser Cys Ile Arg Lys Trp Leu Glu Ser  
20 25 30

Ser Asn Ser Asn  
35

<210> 138

<211> 695

<212> PRT

<213> Homo sapiens

<400> 138

Met Cys Ser Gly Asn Gln Thr Ser Gln Asn Gln Thr Ala Ser Thr Asp  
1 5 10 15

Phe Thr Leu Thr Gly Leu Phe Ala Glu Ser Lys His Ala Ala Leu Leu  
20 25 30

Tyr Thr Val Thr Phe Leu Leu Phe Leu Met Ala Leu Thr Gly Asn Ala  
35 40 45

Leu Leu Ile Leu Leu Ile His Ser Glu Pro Arg Leu His Thr Pro Met  
50 55 60

Tyr Phe Phe Ile Ser Gln Leu Ala Leu Met Asp Leu Met Tyr Leu Cys  
65 70 75 80

Val Thr Val Pro Lys Met Leu Val Gly Gln Val Thr Gly Asp Asp Thr  
85 90 95

Ile Ser Pro Ser Gly Cys Gly Ile Gln Met Phe Phe Tyr Leu Thr Leu  
100 105 110

Ala Gly Ala Glu Val Phe Leu Leu Ala Ala Met Ala Tyr Asp Arg Tyr  
115 120 125

Ala Ala Val Cys Arg Pro Leu His Tyr Pro Leu Leu Met Asn Gln Arg

130	135	140
Val Cys Gln Leu Leu Val Ser Ala Cys Trp Val Leu Gly Met Val Asp 145 150 155 160		
Gly Leu Leu Leu Thr Pro Ile Thr Met Ser Phe Pro Phe Cys Gln Ser 165 170 175		
Arg Lys Ile Leu Ser Phe Phe Cys Glu Thr Pro Ala Leu Leu Lys Leu 180 185 190		
Ser Cys Ser Asp Val Ser Leu Tyr Lys Thr Leu Met Tyr Leu Cys Cys 195 200 205		
Ile Leu Met Leu Leu Ala Pro Ile Met Val Ile Ser Ser Ser Tyr Thr 210 215 220		
Leu Ile Leu His Leu Ile His Arg Met Asn Ser Ala Ala Gly His Arg 225 230 235 240		
Lys Ala Leu Ala Thr Cys Ser Ser His Met Ile Ile Val Leu Leu Leu 245 250 255		
Phe Gly Ala Ser Phe Tyr Thr Tyr Met Leu Pro Ser Ser Tyr His Thr 260 265 270		
Ala Glu Gln Asp Met Met Val Ser Ala Phe Tyr Thr Ile Phe Thr Pro 275 280 285		
Val Leu Asn Pro Leu Ile Tyr Ser Leu Arg Asn Lys Asp Val Thr Arg 290 295 300		
Ala Met Arg Ser Met Met Gln Ala Met Glu Gln Ser Asn Tyr Ser Val 305 310 315 320		
Tyr Ala Asp Phe Ile Leu Leu Gly Leu Phe Ser Asn Ala Arg Phe Pro 325 330 335		
Trp Leu Leu Phe Ala Leu Ile Leu Leu Val Phe Leu Thr Ser Ile Ala 340 345 350		
Ser Asn Val Val Lys Ile Ile Leu Ile His Ile Asp Ser Arg Leu His 355 360 365		
Thr Pro Met Tyr Phe Leu Leu Ser Gln Leu Ser Leu Arg Asp Ile Leu 370 375 380		
Tyr Ile Ser Thr Ile Val Pro Lys Met Leu Val Asp Gln Val Met Ser 385 390 395 400		
Gln Arg Ala Ile Ser Phe Ala Gly Cys Thr Ala Gln His Phe Leu Tyr 405 410 415		
Leu Thr Leu Ala Gly Ala Glu Phe Phe Leu Leu Gly Leu Met Ser Tyr 420 425 430		
Asp Arg Tyr Val Ala Ile Cys Asn Pro Leu His Tyr Pro Val Leu Met		

435					440					445					
Ser	Arg	Lys	Ile	Cys	Trp	Leu	Ile	Val	Ala	Ala	Ala	Trp	Leu	Gly	Gly
450						455					460				
Ser	Ile	Asp	Gly	Phe	Leu	Leu	Thr	Pro	Val	Thr	Met	Gln	Phe	Pro	Phe
465					470					475					480
Cys	Ala	Ser	Arg	Glu	Ile	Asn	His	Phe	Phe	Cys	Glu	Val	Pro	Ala	Leu
				485					490					495	
Leu	Lys	Leu	Ser	Cys	Thr	Asp	Thr	Ser	Ala	Tyr	Glu	Thr	Ala	Met	Tyr
			500					505					510		
Val	Cys	Cys	Ile	Met	Met	Leu	Leu	Ile	Pro	Phe	Ser	Val	Ile	Ser	Gly
		515					520					525			
Ser	Tyr	Thr	Arg	Ile	Leu	Ile	Thr	Val	Tyr	Arg	Met	Ser	Glu	Ala	Glu
	530					535					540				
Gly	Arg	Gly	Lys	Ala	Val	Ala	Thr	Cys	Ser	Ser	His	Met	Val	Val	Val
545					550					555					560
Ser	Leu	Phe	Tyr	Gly	Ala	Ala	Met	Tyr	Thr	Tyr	Val	Leu	Pro	His	Ser
				565					570					575	
Tyr	His	Thr	Pro	Glu	Gln	Asp	Lys	Ala	Val	Ser	Ala	Phe	Tyr	Thr	Ile
			580					585					590		
Leu	Thr	Pro	Met	Leu	Asn	Pro	Leu	Ile	Tyr	Ser	Leu	Arg	Asn	Lys	Asp
		595					600					605			
Val	Thr	Gly	Ala	Leu	Gln	Lys	Val	Val	Gly	Arg	Met	Glu	Trp	Lys	Thr
	610					615					620				
Leu	Pro	Phe	Gln	Ala	Leu	Gln	Val	Arg	Cys	Val	Lys	Trp	Arg	Arg	Ser
625					630					635					640
Val	Leu	Val	Ser	Ser	Phe	Ile	Ala	Thr	Glu	Arg	Thr	Leu	Ala	Asp	Thr
				645					650					655	
Ser	His	Ser	Ser	Ser	His	Ala	Glu	Phe	Pro	Glu	Arg	Gly	Val	Arg	Met
			660					665					670		
Asn	Cys	Ser	Lys	Leu	Phe	Ser	Leu	Val	Glu	Glu	Pro	Val	Thr	Ser	Leu
		675					680					685			
Gly	Asp	Leu	Phe	Asn	Phe	Arg									
	690					695									

<210> 139

<211> 318

<212> PRT

<213> Homo sapiens

<400> 139

Met	Cys	Ser	Gly	Asn	Gln	Thr	Ser	Gln	Asn	Gln	Thr	Ala	Ser	Thr	Asp	1	5	10	15
Phe	Thr	Leu	Thr	Gly	Leu	Phe	Ala	Glu	Ser	Lys	His	Ala	Ala	Leu	Leu	20	25	30	
Tyr	Thr	Val	Thr	Phe	Leu	Leu	Phe	Leu	Met	Ala	Leu	Thr	Gly	Asn	Ala	35	40	45	
Leu	Leu	Ile	Leu	Leu	Ile	His	Ser	Glu	Pro	Arg	Leu	His	Thr	Pro	Met	50	55	60	
Tyr	Phe	Phe	Ile	Ser	Gln	Leu	Ala	Leu	Met	Asp	Leu	Met	Tyr	Leu	Cys	65	70	75	
Val	Thr	Val	Pro	Lys	Met	Leu	Val	Gly	Gln	Val	Thr	Gly	Asp	Asp	Thr	85	90	95	
Ile	Ser	Pro	Ser	Gly	Cys	Gly	Ile	Gln	Met	Phe	Phe	His	Leu	Thr	Leu	100	105	110	
Ala	Gly	Ala	Glu	Val	Phe	Leu	Leu	Ala	Ala	Met	Ala	Tyr	Asp	Arg	Tyr	115	120	125	
Ala	Ala	Val	Cys	Arg	Pro	Leu	His	Tyr	Pro	Leu	Leu	Met	Asn	Gln	Arg	130	135	140	
Val	Cys	Gln	Leu	Leu	Val	Ser	Ala	Cys	Trp	Val	Leu	Gly	Met	Val	Asp	145	150	155	
Gly	Leu	Leu	Leu	Thr	Pro	Ile	Thr	Met	Ser	Phe	Pro	Phe	Cys	Gln	Ser	165	170	175	
Arg	Lys	Ile	Leu	Ser	Phe	Phe	Cys	Glu	Thr	Pro	Ala	Leu	Leu	Lys	Leu	180	185	190	
Ser	Cys	Ser	Asp	Val	Ser	Leu	Tyr	Lys	Met	Leu	Thr	Tyr	Leu	Cys	Cys	195	200	205	
Ile	Leu	Met	Leu	Leu	Thr	Pro	Ile	Met	Val	Ile	Ser	Ser	Ser	Tyr	Thr	210	215	220	
Leu	Ile	Leu	His	Leu	Ile	His	Arg	Met	Asn	Ser	Ala	Ala	Gly	Arg	Arg	225	230	235	
Lys	Ala	Leu	Ala	Thr	Cys	Ser	Ser	His	Met	Ile	Ile	Val	Leu	Leu	Leu	245	250	255	
Phe	Gly	Ala	Ser	Phe	Tyr	Thr	Tyr	Met	Leu	Arg	Ser	Ser	Tyr	His	Thr	260	265	270	
Ala	Glu	Gln	Asp	Met	Met	Val	Ser	Ala	Phe	Tyr	Thr	Ile	Phe	Thr	Pro	275	280	285	
Val	Leu	Asn	Pro	Leu	Ile	Tyr	Ser	Leu	Arg	Asn	Lys	Asp	Val	Thr	Arg	290	295	300	

Ala Leu Arg Ser Met Met Gln Ser Arg Met Asn Gln Glu Lys  
 305 310 315

<210> 140  
 <211> 365  
 <212> PRT  
 <213> Homo sapiens

<400> 140

Met Ala Asn His Thr Gly Arg Leu Asp Phe Ile Leu Met Gly Leu Phe  
 1 5 10 15

Arg Gln Ser Lys His Pro Ala Leu Leu Ser Val Val Ile Phe Val Val  
 20 25 30

Phe Leu Lys Ala Leu Ser Gly Asn Ala Val Leu Ile Leu Leu Ile His  
 35 40 45

Cys Asp Ala His Leu His Ser Pro Met Tyr Phe Phe Ile Ser Gln Leu  
 50 55 60

Ser Leu Met Asp Met Ala Tyr Ile Ser Val Thr Val Pro Lys Met Leu  
 65 70 75 80

Leu Asp Gln Val Met Gly Val Asn Lys Val Ser Ala Pro Glu Cys Gly  
 85 90 95

Met Gln Met Phe Leu Tyr Leu Thr Leu Ala Gly Ser Glu Phe Phe Leu  
 100 105 110

Leu Ala Thr Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys His Pro Leu  
 115 120 125

Arg Tyr Pro Val Leu Met Asn His Arg Val Cys Leu Phe Leu Ala Ser  
 130 135 140

Gly Cys Trp Phe Leu Gly Ser Val Asp Gly Phe Met Leu Thr Pro Ile  
 145 150 155 160

Thr Met Ser Phe Pro Phe Cys Arg Ser Trp Glu Ile His His Phe Phe  
 165 170 175

Cys Glu Val Pro Ala Val Thr Ile Leu Ser Cys Ser Asp Thr Ser Leu  
 180 185 190

Tyr Glu Thr Leu Met Tyr Leu Cys Cys Val Leu Met Leu Leu Ile Pro  
 195 200 205

Val Thr Ile Ile Ser Ser Ser Tyr Leu Leu Ile Leu Leu Thr Val His  
 210 215 220

Arg Met Asn Ser Ala Glu Gly Arg Lys Lys Ala Phe Ala Thr Cys Ser  
 225 230 235 240

Ser His Leu Thr Val Val Ile Leu Phe Tyr Gly Ala Ala Val Tyr Thr  
 245 250 255



Tyr Met Leu Pro Ser Ser Tyr His Thr Pro Glu Lys Asp Met Met Val  
 260 265 270  
 Ser Val Phe Tyr Thr Ile Leu Thr Pro Val Leu Asn Pro Leu Ile Tyr  
 275 280 285  
 Ser Leu Arg Asn Lys Asp Val Met Gly Ala Leu Lys Lys Met Leu Thr  
 290 295 300  
 Gly Phe Ser His Ile Pro Glu Gln Lys Gln Ala Val Ser Val Phe Cys  
 305 310 315 320  
 Thr Val Leu Thr Pro Met Leu Asn Pro Leu Ile Tyr Ile Leu Arg Asn  
 325 330 335  
 Lys Asp Val Val Gly Leu Phe Arg Lys Phe Trp Glu His Ile Lys Ser  
 340 345 350  
 Leu Asn Arg Thr His Lys Tyr Gln Cys Gly Lys Gln Arg  
 355 360 365

<210> 141

<211> 348

<212> PRT

<213> Homo sapiens

<400> 141

Met Asp Asn Ile Thr Trp Met Ala Ser His Thr Gly Trp Ser Asp Phe  
 1 5 10 15  
 Ile Leu Met Gly Leu Phe Arg Gln Ser Lys His Pro Met Ala Asn Ile  
 20 25 30  
 Thr Trp Met Ala Asn His Thr Gly Trp Ser Asp Phe Ile Leu Leu Gly  
 35 40 45  
 Leu Phe Arg Gln Ser Lys His Pro Ala Leu Leu Cys Val Val Ile Phe  
 50 55 60  
 Val Val Phe Leu Met Ala Leu Ser Gly Asn Ala Val Leu Ile Leu Leu  
 65 70 75 80  
 Ile His Cys Asp Ala His Leu His Thr Pro Met Tyr Phe Phe Ile Ser  
 85 90 95  
 Gln Leu Ser Leu Met Asp Met Ala Tyr Ile Ser Val Thr Val Pro Lys  
 100 105 110  
 Met Leu Leu Asp Gln Val Met Gly Val Asn Lys Ile Ser Ala Pro Glu  
 115 120 125  
 Cys Gly Met Gln Met Phe Phe Tyr Val Thr Leu Ala Gly Ser Glu Phe  
 130 135 140  
 Phe Leu Leu Ala Thr Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys His

145		150		155		160
Pro Leu Arg Tyr	Pro Val Leu Met	Asn His Arg Val Cys	Leu Phe Leu			
	165	170	175			
Ser Ser Gly Cys	Trp Phe Leu Gly	Ser Val Asp Gly	Phe Thr Phe Thr			
	180	185	190			
Pro Ile Thr Met	Thr Phe Pro Phe	Arg Gly Ser Arg	Glu Ile His His			
	195	200	205			
Phe Phe Cys Glu	Val Pro Ala Val	Leu Asn Leu Ser	Cys Ser Asp Thr			
	210	215	220			
Ser Leu Tyr Glu	Ile Phe Met Tyr	Leu Cys Cys Val	Leu Met Leu Leu			
	225	230	235			240
Ile Pro Val Val	Ile Ile Ser Ser	Ser Tyr Leu Leu	Ile Leu Leu Thr			
	245	250	255			
Ile His Gly Met	Asn Ser Ala Glu	Gly Arg Lys Lys	Ala Phe Ala Thr			
	260	265	270			
Cys Ser Ser His	Leu Thr Val Val	Ile Leu Phe Tyr	Gly Ala Ala Ile			
	275	280	285			
Tyr Thr Tyr Met	Leu Pro Ser Ser	Tyr His Thr Pro	Glu Lys Asp Met			
	290	295	300			
Met Val Ser Val	Phe Tyr Thr Ile	Leu Thr Pro Val	Val Asn Pro Leu			
	305	310	315			320
Ile Tyr Ser Leu	Arg Asn Lys Asp	Val Met Gly Ala	Leu Lys Lys Met			
	325	330	335			
Leu Thr Val Glu	Pro Ala Phe Gln	Lys Ala Met Glu				
	340	345				

<210> 142  
 <211> 217  
 <212> PRT  
 <213> Homo sapiens

<400> 142  
 Leu Met Asp Leu Met Tyr Leu Cys Val Thr Val Pro Lys Met Leu Val  
 1 5 10 15  
 Gly Gln Val Thr Gly Asp Asp Thr Ile Ser Pro Ser Gly Cys Gly Ile  
 20 25 30  
 Gln Met Phe Phe His Leu Thr Leu Ala Gly Ala Glu Val Phe Leu Leu  
 35 40 45  
 Ala Ala Met Ala Tyr Asp Arg Tyr Ala Ala Val Cys Arg Pro Leu His  
 50 55 60

Tyr Pro Leu Leu Met Asn Gln Arg Val Cys Gln Leu Leu Val Ser Ala  
 65 70 75 80  
 Cys Trp Val Leu Gly Met Val Asp Gly Leu Leu Leu Thr Pro Ile Thr  
 85 90 95  
 Met Ser Phe Pro Phe Cys Gln Ser Arg Lys Ile Leu Ser Phe Phe Cys  
 100 105 110  
 Glu Thr Pro Ala Leu Leu Lys Leu Ser Cys Ser Asp Val Ser Leu Tyr  
 115 120 125  
 Lys Met Leu Thr Tyr Leu Cys Cys Ile Leu Met Leu Leu Thr Pro Ile  
 130 135 140  
 Met Val Ile Ser Ser Ser Tyr Thr Leu Ile Leu His Leu Ile His Arg  
 145 150 155 160  
 Met Asn Ser Ala Ala Gly Arg Arg Lys Ala Leu Ala Thr Cys Ser Ser  
 165 170 175  
 His Met Ile Ile Val Leu Leu Leu Phe Gly Ala Ser Phe Tyr Thr Tyr  
 180 185 190  
 Met Leu Pro Ser Ser Tyr His Thr Ala Glu Gln Asp Met Met Val Ser  
 195 200 205  
 Ala Phe Tyr Thr Ile Phe Thr Pro Val  
 210 215

<210> 143  
 <211> 253  
 <212> PRT  
 <213> Homo sapiens

<400> 143  
 Gly Asn Leu Leu Val Ile Leu Val Ile Leu Arg Thr Lys Lys Leu Arg  
 1 5 10 15  
 Thr Pro Thr Asn Ile Phe Leu Leu Asn Leu Ala Val Ala Asp Leu Leu  
 20 25 30  
 Phe Leu Leu Thr Leu Pro Pro Trp Ala Leu Tyr Tyr Leu Val Gly Gly  
 35 40 45  
 Asp Trp Val Phe Gly Asp Ala Leu Cys Lys Leu Val Gly Ala Leu Phe  
 50 55 60  
 Val Val Asn Gly Tyr Ala Ser Ile Leu Leu Leu Thr Ala Ile Ser Ile  
 65 70 75 80  
 Asp Arg Tyr Leu Ala Ile Val His Pro Leu Arg Tyr Arg Arg Ile Arg  
 85 90 95  
 Thr Pro Arg Arg Ala Lys Val Leu Ile Leu Leu Val Trp Val Leu Ala  
 100 105 110

Leu Leu Leu Ser Leu Pro Pro Leu Leu Phe Ser Trp Leu Arg Thr Val  
 115 120 125  
 Glu Glu Gly Asn Thr Thr Val Cys Leu Ile Asp Phe Pro Glu Glu Ser  
 130 135 140  
 Val Lys Arg Ser Tyr Val Leu Leu Ser Thr Leu Val Gly Phe Val Leu  
 145 150 155 160  
 Pro Leu Leu Val Ile Leu Val Cys Tyr Thr Arg Ile Leu Arg Thr Leu  
 165 170 175  
 Arg Lys Arg Ala Arg Ser Gln Arg Ser Leu Lys Arg Arg Ser Ser Ser  
 180 185 190  
 Glu Arg Lys Ala Ala Lys Met Leu Leu Val Val Val Val Val Phe Val  
 195 200 205  
 Leu Cys Trp Leu Pro Tyr His Ile Val Leu Leu Leu Asp Ser Leu Cys  
 210 215 220  
 Leu Leu Ser Ile Trp Arg Val Leu Pro Thr Ala Leu Leu Ile Thr Leu  
 225 230 235 240  
 Trp Leu Ala Tyr Val Asn Ser Cys Leu Asn Pro Ile Ile  
 245 250

<210> 144  
 <211> 529  
 <212> PRT  
 <213> Homo sapiens

<400> 144  
 Met Ser Val Lys Trp Thr Ser Val Ile Leu Leu Ile Gln Leu Ser Phe  
 1 5 10 15  
 Cys Phe Ser Ser Gly Asn Cys Gly Lys Val Leu Val Trp Ala Ala Glu  
 20 25 30  
 Tyr Ser His Trp Met Asn Ile Lys Thr Ile Leu Asp Glu Leu Ile Gln  
 35 40 45  
 Arg Gly His Glu Val Thr Val Leu Ala Ser Ser Ala Ser Ile Leu Phe  
 50 55 60  
 Asp Pro Asn Asn Ser Ser Ala Leu Lys Ile Glu Ile Tyr Pro Thr Ser  
 65 70 75 80  
 Leu Thr Lys Thr Glu Leu Glu Asn Phe Ile Met Gln Gln Ile Lys Arg  
 85 90 95  
 Trp Ser Asp Leu Pro Lys Asp Thr Phe Trp Leu Tyr Phe Ser Gln Val  
 100 105 110  
 Gln Glu Ile Met Ser Ile Phe Gly Asp Ile Thr Arg Lys Phe Cys Lys

115					120					125					
Asp	Val	Val	Ser	Asn	Lys	Lys	Phe	Met	Lys	Lys	Val	Gln	Glu	Ser	Arg
130						135					140				
Phe	Asp	Val	Ile	Phe	Ala	Asp	Ala	Ile	Phe	Pro	Cys	Ser	Glu	Leu	Leu
145					150					155					160
Ala	Glu	Leu	Phe	Asn	Ile	Pro	Phe	Val	Tyr	Ser	Leu	Ser	Phe	Ser	Pro
				165					170					175	
Gly	Tyr	Thr	Phe	Glu	Lys	His	Ser	Gly	Gly	Phe	Ile	Phe	Pro	Pro	Ser
			180					185					190		
Tyr	Val	Pro	Val	Val	Met	Ser	Glu	Leu	Thr	Asp	Gln	Met	Thr	Phe	Met
		195					200					205			
Glu	Arg	Val	Lys	Asn	Met	Ile	Tyr	Val	Leu	Tyr	Phe	Asp	Phe	Trp	Phe
	210					215					220				
Glu	Ile	Phe	Asp	Met	Lys	Lys	Trp	Asp	Gln	Phe	Tyr	Ser	Glu	Val	Leu
225					230					235					240
Gly	Arg	Pro	Thr	Thr	Leu	Ser	Glu	Thr	Met	Gly	Lys	Ala	Asp	Val	Trp
				245					250					255	
Leu	Ile	Arg	Asn	Ser	Trp	Asn	Phe	Gln	Phe	Pro	His	Pro	Leu	Leu	Pro
			260					265					270		
Asn	Val	Asp	Phe	Val	Gly	Gly	Leu	His	Cys	Lys	Pro	Ala	Lys	Pro	Leu
		275					280					285			
Pro	Lys	Glu	Met	Glu	Asp	Phe	Val	Gln	Ser	Ser	Gly	Glu	Asn	Gly	Val
		290				295					300				
Val	Val	Phe	Ser	Leu	Gly	Ser	Met	Val	Ser	Asn	Met	Thr	Glu	Glu	Arg
305					310					315					320
Ala	Asn	Val	Ile	Ala	Ser	Ala	Leu	Ala	Gln	Ile	Pro	Gln	Lys	Val	Leu
				325					330					335	
Trp	Arg	Phe	Asp	Gly	Asn	Lys	Pro	Asp	Thr	Leu	Gly	Leu	Asn	Thr	Arg
			340					345					350		
Leu	Tyr	Lys	Trp	Ile	Pro	Gln	Asn	Asp	Leu	Leu	Gly	His	Pro	Lys	Thr
		355					360					365			
Arg	Ala	Phe	Ile	Thr	His	Gly	Gly	Ala	Asn	Gly	Ile	Tyr	Glu	Ala	Ile
		370				375					380				
Tyr	His	Gly	Ile	Pro	Met	Val	Gly	Ile	Pro	Leu	Phe	Ala	Asp	Gln	Pro
385					390					395					400
Asp	Asn	Ile	Ala	His	Met	Lys	Ala	Arg	Gly	Ala	Ala	Val	Arg	Val	Asp
				405					410					415	
Phe	Asn	Thr	Met	Ser	Ser	Thr	Asp	Leu	Leu	Asn	Ala	Leu	Lys	Arg	Val

420					425					430					
Ile	Asn	Asp	Pro	Ser	Tyr	Lys	Glu	Asn	Val	Met	Lys	Leu	Ser	Arg	Ile
		435					440					445			
Gln	His	Asp	Gln	Pro	Val	Lys	Pro	Leu	Asp	Arg	Ala	Val	Phe	Trp	Ile
	450					455					460				
Glu	Phe	Val	Met	Arg	His	Lys	Gly	Ala	Lys	His	Leu	Arg	Val	Ala	Ala
465					470					475					480
His	Asp	Leu	Thr	Trp	Phe	Gln	Tyr	His	Ser	Leu	Asp	Val	Ile	Gly	Phe
				485					490					495	
Leu	Leu	Val	Cys	Val	Ala	Thr	Val	Ile	Phe	Ile	Val	Thr	Lys	Cys	Cys
			500					505					510		
Leu	Phe	Cys	Phe	Trp	Lys	Phe	Ala	Arg	Lys	Ala	Lys	Lys	Gly	Lys	Asn
		515					520					525			

Asp

<210> 145  
 <211> 528  
 <212> PRT  
 <213> Homo sapiens

<400> 145															
Met	Ser	Met	Lys	Trp	Thr	Ser	Ala	Leu	Leu	Leu	Ile	Gln	Leu	Ser	Cys
1				5					10					15	
Tyr	Phe	Ser	Ser	Gly	Ser	Cys	Gly	Lys	Val	Leu	Val	Trp	Pro	Thr	Glu
			20					25					30		
Phe	Ser	His	Trp	Met	Asn	Ile	Lys	Thr	Ile	Leu	Asp	Glu	Leu	Val	Gln
		35					40					45			
Arg	Gly	His	Glu	Val	Thr	Val	Leu	Ala	Ser	Ser	Ala	Ser	Ile	Ser	Phe
	50					55					60				
Asp	Pro	Asn	Ser	Pro	Ser	Thr	Leu	Lys	Phe	Glu	Val	Tyr	Pro	Val	Ser
65					70				75						80
Leu	Thr	Lys	Thr	Glu	Phe	Glu	Asp	Ile	Ile	Lys	Gln	Leu	Val	Lys	Arg
			85					90						95	
Trp	Ala	Glu	Leu	Pro	Lys	Asp	Thr	Phe	Trp	Ser	Tyr	Phe	Ser	Gln	Val
		100						105					110		
Gln	Glu	Ile	Met	Trp	Thr	Phe	Asn	Asp	Ile	Leu	Arg	Lys	Phe	Cys	Lys
		115					120					125			
Asp	Ile	Val	Ser	Asn	Lys	Lys	Leu	Met	Lys	Lys	Leu	Gln	Glu	Ser	Arg
		130				135					140				

Phe	Asp	Val	Val	Leu	Ala	Asp	Ala	Val	Phe	Pro	Phe	Gly	Glu	Leu	Leu	145	150	155	160
Ala	Glu	Leu	Leu	Lys	Ile	Pro	Phe	Val	Tyr	Ser	Leu	Arg	Phe	Ser	Pro	165	170	175	
Gly	Tyr	Ala	Ile	Glu	Lys	His	Ser	Gly	Gly	Leu	Leu	Phe	Pro	Pro	Ser	180	185	190	
Tyr	Val	Pro	Val	Val	Met	Ser	Glu	Leu	Ser	Asp	Gln	Met	Thr	Phe	Ile	195	200	205	
Glu	Arg	Val	Lys	Asn	Met	Ile	Tyr	Val	Leu	Tyr	Phe	Glu	Phe	Trp	Phe	210	215	220	
Gln	Ile	Phe	Asp	Met	Lys	Lys	Trp	Asp	Gln	Phe	Tyr	Ser	Glu	Val	Leu	225	230	235	240
Gly	Arg	Pro	Thr	Thr	Leu	Ser	Glu	Thr	Met	Ala	Lys	Ala	Asp	Ile	Trp	245	250	255	
Leu	Ile	Arg	Asn	Tyr	Trp	Asp	Phe	Gln	Phe	Pro	His	Pro	Leu	Leu	Pro	260	265	270	
Asn	Val	Glu	Phe	Val	Gly	Gly	Leu	His	Cys	Lys	Pro	Ala	Lys	Pro	Leu	275	280	285	
Pro	Lys	Glu	Met	Glu	Glu	Phe	Val	Gln	Ser	Ser	Gly	Glu	Asn	Gly	Val	290	295	300	
Val	Val	Phe	Ser	Leu	Gly	Ser	Met	Val	Ser	Asn	Thr	Ser	Glu	Glu	Arg	305	310	315	320
Ala	Asn	Val	Ile	Ala	Ser	Ala	Leu	Ala	Lys	Ile	Pro	Gln	Lys	Val	Leu	325	330	335	
Trp	Arg	Phe	Asp	Gly	Asn	Lys	Pro	Asp	Thr	Leu	Gly	Leu	Asn	Thr	Arg	340	345	350	
Leu	Tyr	Lys	Trp	Ile	Pro	Gln	Asn	Asp	Leu	Leu	Gly	His	Pro	Lys	Thr	355	360	365	
Arg	Ala	Phe	Ile	Thr	His	Gly	Gly	Ala	Asn	Gly	Ile	Tyr	Glu	Ala	Ile	370	375	380	
Tyr	His	Gly	Ile	Pro	Met	Val	Gly	Val	Pro	Leu	Phe	Ala	Asp	Gln	Pro	385	390	395	400
Asp	Asn	Ile	Ala	His	Met	Lys	Ala	Lys	Gly	Ala	Ala	Val	Ser	Leu	Asp	405	410	415	
Phe	His	Thr	Met	Ser	Ser	Thr	Asp	Leu	Leu	Asn	Ala	Leu	Lys	Thr	Val	420	425	430	
Ile	Asn	Asp	Pro	Leu	Tyr	Lys	Glu	Asn	Ala	Met	Lys	Leu	Ser	Arg	Ile	435	440	445	

His His Asp Gln Pro Val Lys Pro Leu Asp Arg Ala Val Phe Trp Ile  
 450 455 460  
 Glu Phe Val Met Arg His Lys Gly Ala Lys His Leu Arg Val Ala Ala  
 465 470 475 480  
 His Asp Leu Thr Trp Phe Gln Tyr His Ser Leu Asp Val Thr Gly Phe  
 485 490 495  
 Leu Leu Ala Cys Val Ala Thr Val Ile Phe Ile Ile Thr Lys Cys Leu  
 500 505 510  
 Phe Cys Val Trp Lys Phe Val Arg Thr Gly Lys Lys Gly Lys Arg Asp  
 515 520 525

<210> 146  
 <211> 528  
 <212> PRT  
 <213> Homo sapiens

<400> 146  
 Met Ser Met Lys Trp Thr Ser Ala Leu Leu Leu Ile Gln Leu Ser Cys  
 1 5 10 15  
 Tyr Phe Ser Ser Gly Ser Cys Gly Lys Val Leu Val Trp Pro Thr Glu  
 20 25 30  
 Phe Ser His Trp Met Asn Ile Lys Thr Ile Leu Asp Glu Leu Val Gln  
 35 40 45  
 Arg Gly His Glu Val Thr Val Leu Ala Ser Ser Ala Ser Ile Ser Phe  
 50 55 60  
 Asp Pro Asn Ser Pro Ser Thr Leu Lys Phe Glu Val Tyr Pro Val Ser  
 65 70 75 80  
 Leu Thr Lys Thr Glu Phe Glu Asp Ile Ile Lys Gln Leu Val Lys Arg  
 85 90 95  
 Trp Ala Glu Leu Pro Lys Asp Thr Phe Trp Ser Tyr Leu Ser Gln Val  
 100 105 110  
 Gln Glu Ile Met Trp Thr Phe Asn Asp Ile Leu Arg Lys Phe Cys Lys  
 115 120 125  
 Asp Ile Val Ser Asn Lys Lys Leu Met Lys Lys Leu Gln Glu Ser Arg  
 130 135 140  
 Phe Asp Val Val Leu Ala Asp Ala Val Phe Pro Phe Gly Glu Leu Leu  
 145 150 155 160  
 Ala Glu Leu Leu Lys Ile Pro Phe Val Tyr Ser Leu Arg Phe Ser Pro  
 165 170 175



Gly	Tyr	Ala	Ile	Glu	Lys	His	Ser	Gly	Gly	Leu	Leu	Phe	Pro	Pro	Ser	
			180					185					190			
Tyr	Val	Pro	Val	Val	Met	Ser	Glu	Leu	Ser	Asp	Gln	Met	Thr	Phe	Ile	
		195					200					205				
Glu	Arg	Val	Lys	Asn	Met	Ile	Tyr	Val	Leu	Tyr	Phe	Glu	Phe	Trp	Phe	
	210					215					220					
Gln	Ile	Phe	Asp	Met	Lys	Lys	Trp	Asp	Gln	Phe	Tyr	Ser	Glu	Val	Leu	
225					230					235					240	
Gly	Arg	Pro	Thr	Thr	Leu	Ser	Glu	Thr	Met	Ala	Lys	Ala	Asp	Ile	Trp	
				245					250					255		
Leu	Ile	Arg	Asn	Tyr	Trp	Asp	Phe	Gln	Phe	Pro	His	Pro	Leu	Leu	Pro	
			260					265					270			
Asn	Val	Glu	Phe	Val	Gly	Gly	Leu	His	Cys	Lys	Pro	Ala	Lys	Pro	Leu	
		275					280					285				
Pro	Lys	Glu	Met	Glu	Glu	Phe	Val	Gln	Ser	Ser	Gly	Glu	Asn	Gly	Val	
	290					295					300					
Val	Val	Phe	Ser	Leu	Gly	Ser	Met	Val	Ser	Asn	Thr	Ser	Glu	Glu	Arg	
305					310					315					320	
Ala	Asn	Val	Ile	Ala	Ser	Ala	Leu	Ala	Lys	Ile	Pro	Gln	Lys	Val	Leu	
				325					330					335		
Trp	Arg	Phe	Asp	Gly	Asn	Lys	Pro	Asp	Thr	Leu	Gly	Leu	Asn	Thr	Arg	
			340					345					350			
Leu	Tyr	Lys	Trp	Ile	Pro	Gln	Asn	Asp	Leu	Leu	Gly	His	Pro	Lys	Thr	
		355					360					365				
Arg	Ala	Phe	Ile	Thr	His	Gly	Gly	Ala	Asn	Gly	Ile	Tyr	Glu	Ala	Ile	
	370					375					380					
Tyr	His	Gly	Ile	Pro	Met	Val	Gly	Val	Pro	Leu	Leu	Ala	Asp	Gln	Pro	
385					390					395					400	
Asp	Asn	Ile	Ala	His	Met	Lys	Ala	Lys	Gly	Ala	Ala	Val	Ser	Leu	Asp	
				405					410					415		
Phe	His	Thr	Met	Ser	Ser	Thr	Asp	Leu	Leu	Asn	Ala	Leu	Lys	Thr	Val	
			420					425					430			
Ile	Asn	Asp	Pro	Leu	Tyr	Lys	Glu	Asn	Ala	Met	Lys	Leu	Ser	Arg	Ile	
		435					440					445				
His	His	Asp	Gln	Pro	Val	Lys	Pro	Leu	Asp	Arg	Ala	Val	Phe	Trp	Ile	
		450				455					460					
Glu	Phe	Val	Met	Arg	His	Lys	Gly	Ala	Lys	His	Leu	Arg	Val	Ala	Ala	
465					470					475					480	

His Asp Leu Thr Trp Phe Gln Tyr His Ser Leu Asp Val Thr Gly Phe  
485 490 495

Leu Leu Ala Cys Val Ala Thr Val Ile Phe Ile Ile Thr Lys Cys Leu  
500 505 510

Phe Cys Val Trp Lys Phe Val Arg Thr Gly Lys Lys Gly Lys Arg Asp  
515 520 525

<210> 147  
<211> 528  
<212> PRT  
<213> Homo sapiens

<400> 147  
Met Ser Met Lys Trp Thr Ser Ala Leu Leu Leu Ile Gln Leu Ser Cys  
1 5 10 15

Tyr Phe Ser Ser Gly Ser Cys Gly Lys Val Leu Val Trp Pro Thr Glu  
20 25 30

Phe Ser His Trp Met Asn Ile Lys Thr Ile Leu Asp Glu Leu Val Gln  
35 40 45

Arg Gly His Glu Val Thr Val Leu Ala Ser Ser Ala Ser Ile Ser Phe  
50 55 60

Asp Pro Asn Ser Pro Ser Thr Leu Lys Phe Glu Val Tyr Pro Val Ser  
65 70 75 80

Leu Thr Lys Thr Glu Phe Glu Asp Ile Ile Lys Gln Leu Val Lys Arg  
85 90 95

Trp Ala Glu Leu Pro Lys Asp Thr Phe Trp Ser Tyr Phe Ser Gln Val  
100 105 110

Gln Glu Ile Met Trp Thr Phe Asn Asp Ile Leu Arg Lys Phe Cys Lys  
115 120 125

Asp Ile Val Ser Asn Lys Lys Leu Met Lys Lys Leu Gln Glu Ser Arg  
130 135 140

Phe Asp Val Val Leu Ala Asp Ala Val Phe Pro Phe Gly Glu Leu Leu  
145 150 155 160

Ala Glu Leu Leu Lys Ile Pro Phe Val Tyr Ser Leu Arg Phe Ser Pro  
165 170 175

Gly Tyr Ala Ile Glu Lys His Ser Gly Gly Leu Leu Phe Pro Pro Ser  
180 185 190

Tyr Val Pro Val Val Met Ser Glu Leu Ser Asp Gln Met Thr Phe Ile

195					200					205					
Glu	Arg	Val	Lys	Asn	Met	Ile	Tyr	Val	Leu	Tyr	Phe	Glu	Phe	Trp	Phe
210					215					220					
Gln	Ile	Phe	Asp	Met	Lys	Lys	Trp	Asp	Gln	Phe	Tyr	Ser	Glu	Val	Leu
225					230					235					240
Gly	Arg	Pro	Thr	Thr	Leu	Ser	Glu	Thr	Met	Ala	Lys	Ala	Asp	Ile	Trp
					245					250					255
Leu	Ile	Arg	Asn	Tyr	Trp	Asp	Phe	Gln	Phe	Pro	His	Pro	Leu	Leu	Pro
					260					265					270
Asn	Val	Glu	Phe	Val	Gly	Gly	Leu	His	Cys	Lys	Pro	Ala	Lys	Pro	Leu
275					280					285					
Pro	Lys	Glu	Met	Glu	Glu	Phe	Val	Gln	Ser	Ser	Gly	Glu	Asn	Gly	Val
290					295					300					
Val	Val	Phe	Ser	Leu	Gly	Ser	Met	Val	Ser	Asn	Thr	Ser	Glu	Glu	Arg
305					310					315					320
Ala	Asn	Val	Ile	Ala	Ser	Ala	Leu	Ala	Lys	Ile	Pro	Gln	Lys	Val	Leu
					325					330					335
Trp	Arg	Phe	Asp	Gly	Asn	Lys	Pro	Asp	Thr	Leu	Gly	Leu	Asn	Thr	Arg
					340					345					350
Leu	Tyr	Lys	Trp	Ile	Pro	Gln	Asn	Asp	Leu	Leu	Gly	His	Pro	Lys	Thr
355					360					365					
Arg	Ala	Phe	Ile	Thr	His	Gly	Gly	Ala	Asn	Gly	Ile	Tyr	Glu	Ala	Ile
370					375					380					
Tyr	His	Gly	Ile	Pro	Met	Val	Gly	Val	Pro	Leu	Phe	Ala	Asp	Gln	Pro
385					390					395					400
Asp	Asn	Ile	Ala	His	Met	Lys	Ala	Lys	Gly	Ala	Ala	Val	Ser	Leu	Asp
					405					410					415
Phe	His	Thr	Met	Ser	Ser	Thr	Asp	Leu	Leu	Asn	Ala	Leu	Lys	Thr	Val
					420					425					430
Ile	Asn	Asp	Pro	Leu	Tyr	Lys	Glu	Asn	Ala	Met	Lys	Leu	Ser	Arg	Ile
435					440					445					
His	His	Asp	Gln	Pro	Val	Lys	Pro	Leu	Glu	Arg	Ala	Val	Phe	Trp	Ile
450					455					460					
Glu	Phe	Val	Met	Arg	His	Lys	Gly	Ala	Lys	His	Leu	Arg	Val	Ala	Ala
465					470					475					480
His	Asp	Leu	Thr	Trp	Phe	Gln	Tyr	His	Ser	Leu	Asp	Val	Thr	Gly	Phe
					485					490					495
Leu	Leu	Ala	Cys	Val	Ala	Thr	Val	Ile	Phe	Ile	Ile	Thr	Lys	Cys	Leu

500					505					510					
Phe	Cys	Val	Trp	Lys	Phe	Val	Arg	Thr	Gly	Lys	Lys	Gly	Lys	Arg	Asp
		515					520					525			
<p>&lt;210&gt; 148          &lt;211&gt; 529          &lt;212&gt; PRT          &lt;213&gt; <i>Macaca fascicularis</i></p>															
<p>&lt;400&gt; 148</p>															
Met	Ser	Val	Lys	Trp	Thr	Ser	Val	Ile	Leu	Leu	Ile	Gln	Leu	Ser	Phe
1				5					10					15	
Tyr	Phe	Ser	Ser	Gly	Ser	Cys	Gly	Lys	Val	Leu	Val	Trp	Ala	Ala	Glu
			20					25					30		
Tyr	Ser	His	Trp	Met	Asn	Met	Lys	Thr	Ile	Leu	Glu	Glu	Leu	Val	Gln
		35					40					45			
Arg	Gly	His	Glu	Val	Thr	Val	Leu	Ala	Ser	Ser	Ala	Ser	Ile	Leu	Phe
	50					55					60				
Asp	Pro	Asn	Asn	Ser	Ser	Ala	Leu	Lys	Ile	Glu	Val	Phe	Pro	Thr	Ser
	65				70					75					80
Leu	Thr	Lys	Thr	Glu	Phe	Glu	Asn	Ile	Ile	Arg	Gln	Gln	Ile	Lys	Arg
				85					90					95	
Trp	Ser	Glu	Leu	Pro	Lys	Asp	Thr	Phe	Trp	Leu	Tyr	Phe	Ser	Gln	Met
			100					105					110		
Gln	Glu	Ile	Met	Trp	Lys	Phe	Gly	Asp	Ile	Thr	Arg	Asn	Phe	Cys	Lys
		115					120					125			
Asp	Val	Val	Ser	Asn	Lys	Lys	Leu	Met	Lys	Lys	Leu	Gln	Lys	Ser	Arg
	130					135					140				
Phe	Asp	Val	Val	Phe	Ala	Asp	Ala	Ile	Phe	Pro	Cys	Ser	Glu	Leu	Leu
145					150						155				160
Ala	Glu	Leu	Leu	Asn	Thr	Pro	Leu	Val	Tyr	Ser	Leu	Arg	Phe	Thr	Pro
				165					170					175	
Gly	Tyr	Asn	Phe	Glu	Lys	His	Cys	Gly	Gly	Phe	Leu	Phe	Pro	Pro	Ser
		180						185					190		
Tyr	Val	Pro	Val	Val	Met	Ser	Glu	Leu	Ser	Asp	His	Met	Thr	Phe	Met
		195					200					205			
Glu	Arg	Val	Lys	Asn	Met	Ile	Tyr	Met	Leu	Tyr	Phe	Asp	Phe	Cys	Phe
	210					215						220			

Gln	Ile	Tyr	Ala	Met	Lys	Lys	Trp	Asp	Gln	Phe	Tyr	Ser	Glu	Val	Leu	
225					230					235					240	
Gly	Arg	Pro	Thr	Thr	Leu	Ser	Glu	Thr	Met	Gly	Lys	Ala	Asp	Ile	Trp	
				245					250					255		
Leu	Ile	Arg	Asn	Ser	Trp	Asn	Phe	Gln	Phe	Pro	His	Pro	Leu	Leu	Pro	
			260					265					270			
Asn	Val	Asp	Phe	Val	Gly	Gly	Leu	His	Cys	Lys	Pro	Ala	Lys	Pro	Leu	
		275					280					285				
Pro	Lys	Glu	Met	Glu	Glu	Phe	Val	Gln	Ser	Ser	Gly	Glu	Asn	Gly	Val	
	290					295					300					
Val	Val	Phe	Ser	Leu	Gly	Ser	Met	Val	Thr	Asn	Met	Lys	Glu	Glu	Arg	
305					310					315					320	
Ala	Asn	Val	Ile	Ala	Ser	Ala	Leu	Ala	Gln	Ile	Pro	Gln	Lys	Val	Leu	
				325					330					335		
Trp	Arg	Phe	Asp	Gly	Lys	Lys	Pro	Asp	Thr	Leu	Gly	Leu	Asn	Thr	Arg	
			340					345					350			
Leu	Tyr	Lys	Trp	Ile	Pro	Gln	Asn	Asp	Leu	Leu	Gly	His	Pro	Lys	Thr	
		355					360					365				
Arg	Ala	Phe	Ile	Thr	His	Gly	Gly	Ser	Asn	Gly	Ile	Tyr	Glu	Ala	Ile	
	370					375					380					
Tyr	His	Gly	Val	Pro	Met	Val	Gly	Ile	Pro	Leu	Phe	Ala	Asp	Gln	Pro	
385					390					395					400	
Asp	Asn	Ile	Ala	His	Met	Lys	Ala	Lys	Gly	Ala	Ala	Val	Arg	Leu	Asp	
				405					410					415		
Phe	Asp	Thr	Met	Ser	Ser	Thr	Asp	Leu	Val	Asn	Ala	Leu	Lys	Thr	Val	
			420					425					430			
Ile	Asn	Asp	Pro	Leu	Tyr	Lys	Glu	Asn	Val	Met	Lys	Leu	Ser	Arg	Ile	
		435					440					445				
Gln	His	Asp	Gln	Pro	Val	Lys	Pro	Leu	Asp	Arg	Ala	Val	Phe	Trp	Ile	
	450					455					460					
Glu	Phe	Val	Met	Arg	His	Lys	Gly	Ala	Lys	His	Leu	Arg	Pro	Ala	Ala	
465					470					475					480	
His	Asp	Leu	Thr	Trp	Phe	Gln	Tyr	His	Ser	Leu	Asp	Val	Ile	Gly	Phe	
				485					490					495		
Leu	Leu	Ala	Cys	Val	Ala	Thr	Val	Ile	Phe	Ile	Ile	Met	Lys	Cys	Cys	
			500					505					510			
Leu	Phe	Cys	Phe	Trp	Lys	Phe	Ala	Arg	Lys	Gly	Lys	Lys	Gly	Lys	Ser	
		515					520					525				

Asp

<210> 149

<211> 501

<212> PRT

<213> Homo sapiens

<400> 149

Gly Lys Val Leu Val Trp Pro Met Asp Gly Ser His Trp Met Asn Met  
1 5 10 15

Lys Gly Ile Leu Leu Glu Leu Val Gln Arg Gly His Glu Val Thr Val  
20 25 30

Leu Arg Pro Ser Ala Ser Ile Leu Ile Gly Pro Ala Lys Pro Ser Asn  
35 40 45

Leu Lys Phe Glu Thr Tyr Pro Asp Ser Ala Thr Lys Glu Glu Leu Glu  
50 55 60

Asn Leu Phe Pro Lys Arg Val Met Asn Trp Phe Met Glu Ala Ala Glu  
65 70 75 80

Ala Gly Thr Val Trp Ser Tyr Phe Ser Ala Leu Gln Glu Tyr Ser Asp  
85 90 95

Gly Ala Arg Val Ser Cys Lys Glu Leu Val Gly Asn Lys Phe Leu Met  
100 105 110

Thr Lys Leu Gln Glu Ser Ser Phe Asp Val Val Leu Ala Asp Pro Val  
115 120 125

Trp Pro Cys Gly Ala Leu Leu Ala Glu Leu Leu His Ile Pro Thr Val  
130 135 140

Tyr Ser Leu Arg Phe Val Pro Gly Tyr Ala Ala Glu Lys Ala Asp Gly  
145 150 155 160

Gly Leu Pro Ala Pro Pro Ser Tyr Val Pro Val Arg Leu Ser Asp Leu  
165 170 175

Ser Asp Gly Met Thr Phe Gly Glu Arg Val Lys Asn Met Leu Ile Met  
180 185 190

Leu Tyr Phe Asp Phe Trp Phe Gln Arg Phe Pro Lys Lys Trp Asp Gln  
195 200 205

Phe Ala Ser Glu Leu Leu Gly Arg Pro Val Thr Leu Pro Glu Asp Leu  
210 215 220

Ser Lys Ala Ser Ala Trp Leu Leu Arg Asn Tyr Trp Asp Leu Glu Phe  
225 230 235 240

Pro Arg Pro Leu Leu Pro Asn Met Glu Phe Ile Gly Gly Leu Asn Cys  
245 250 255

Lys Pro Ala Lys Pro Leu Pro Gln Glu Met Glu Ala Phe Val Gln Ser  
 260 265 270  
 Ser Gly Glu His Gly Val Val Val Phe Ser Leu Gly Ser Met Val Ser  
 275 280 285  
 Asn Ile Pro Glu Glu Lys Ala Asn Glu Ile Ala Ser Ala Leu Ala Gln  
 290 295 300  
 Ile Pro Gln Lys Val Leu Trp Arg Phe Asp Gly Thr Lys Pro Ser Thr  
 305 310 315 320  
 Leu Gly Asn Asn Thr Arg Leu Val Lys Trp Leu Pro Gln Asn Asp Leu  
 325 330 335  
 Leu Gly His Pro Lys Thr Arg Ala Phe Val Thr His Ala Gly Ser Asn  
 340 345 350  
 Gly Val Tyr Glu Ala Ile Cys His Gly Val Pro Met Val Gly Met Pro  
 355 360 365  
 Leu Phe Gly Asp Gln Met Asp Asn Ala Lys His Met Glu Ala Lys Gly  
 370 375 380  
 Ala Ala Val Thr Leu Asn Val Leu Thr Met Thr Ser Glu Asp Leu Leu  
 385 390 395 400  
 Asn Ala Leu Lys Thr Val Ile Asn Asp Pro Ser Tyr Lys Glu Asn Ile  
 405 410 415  
 Met Arg Leu Ser Ser Ile His His Asp Gln Pro Val Lys Pro Leu Asp  
 420 425 430  
 Arg Ala Val Phe Trp Ile Glu Phe Val Met Arg His Lys Gly Ala Lys  
 435 440 445  
 His Leu Arg Pro Ala Ala His Asp Leu Thr Trp Tyr Gln Tyr His Ser  
 450 455 460  
 Leu Asp Val Ile Gly Phe Leu Leu Ala Cys Val Ala Thr Val Ala Phe  
 465 470 475 480  
 Ile Thr Phe Lys Cys Cys Leu Phe Gly Tyr Arg Lys Phe Val Gly Lys  
 485 490 495  
 Lys Lys Arg Val Lys  
 500

<210> 150

<211> 343

<212> PRT

<213> Homo sapiens

<400> 150

Met Ala Gln Lys Gly Val Leu Gly Pro Gly Gln Leu Gly Ala Val Ala

1	5	10	15
Ile Leu Leu Tyr 20	Leu Gly Leu Leu	Arg Ser Gly Thr Gly 25	Ala Glu Gly 30
Ala Glu Ala Pro Cys Gly Val 35	Ala Pro Gln Ala Arg 40	Ile Thr Gly Gly 45	
Ser Ser Ala Val Ala Gly Gln Trp Pro Trp Gln Val Ser Ile Thr Tyr 50	55	60	
Glu Gly Val His Val Cys Gly Gly Ser Leu Val Ser Glu Gln Trp Val 65	70	75	80
Leu Ser Ala Ala His Cys Phe Pro Ser Glu His His Lys Glu Ala Tyr 85	90	95	
Glu Val Lys Leu Gly Ala His Gln Leu Asp Ser Tyr Ser Glu Asp Ala 100	105	110	
Lys Val Ser Thr Leu Lys Asp Ile Ile Pro His Pro Ser Tyr Leu Gln 115	120	125	
Glu Gly Ser Gln Gly Asp Ile Ala Leu Leu Gln Leu Ser Arg Pro Ile 130	135	140	
Thr Phe Ser Arg Tyr Ile Arg Pro Ile Cys Leu Pro Ala Ala Asn Ala 145	150	155	160
Ser Phe Pro Asn Gly Leu His Cys Thr Val Thr Gly Trp Gly His Val 165	170	175	
Ala Pro Ser Val Ser Leu Leu Thr Pro Lys Pro Leu Gln Gln Leu Glu 180	185	190	
Val Pro Leu Ile Ser Arg Glu Thr Cys Asn Cys Leu Tyr Asn Ile Asp 195	200	205	
Ala Lys Pro Glu Glu Pro His Phe Val Gln Glu Asp Met Val Cys Ala 210	215	220	
Gly Tyr Val Glu Gly Gly Lys Asp Ala Cys Gln Gly Asp Ser Gly Gly 225	230	235	240
Pro Leu Ser Cys Pro Val Glu Gly Leu Trp Tyr Leu Thr Gly Ile Val 245	250	255	
Ser Trp Gly Asp Ala Cys Gly Ala Arg Asn Arg Pro Gly Val Tyr Thr 260	265	270	
Leu Ala Ser Ser Tyr Ala Ser Trp Ile Gln Ser Lys Val Thr Glu Leu 275	280	285	
Gln Pro Arg Val Val Pro Gln Thr Gln Glu Ser Gln Pro Asp Ser Asn 290	295	300	
Leu Cys Gly Ser His Leu Ala Phe Ser Ser Ala Pro Ala Gln Gly Leu			



305                      310                      315                      320  
 Leu Arg Pro Ile Leu Phe Leu Pro Leu Gly Leu Ala Leu Gly Leu Leu  
                                  325                      330                      335  
  
 Ser Pro Trp Leu Ser Glu His  
                                  340  
  
 <210> 151  
 <211> 342  
 <212> PRT  
 <213> Rattus norvegicus  
  
 <400> 151  
 Met Ala Leu Arg Val Gly Leu Gly Leu Gly Gln Leu Glu Ala Leu Phe  
   1                                    5                                    10                                    15  
  
 Val Leu Leu Leu Ile Gly Leu Leu Gln Ser Arg Ile Gly Ala Asp Gly  
                                  20                                    25                                    30  
  
 Thr Glu Ala Ser Cys Gly Ala Val Ile Gln Pro Arg Ile Thr Gly Gly  
                                  35                                    40                                    45  
  
 Gly Ser Ala Lys Pro Gly Gln Trp Pro Trp Gln Val Ser Ile Thr Tyr  
                                  50                                    55                                    60  
  
 Asn Gly Val His Val Cys Gly Gly Ser Leu Val Ser Asn Gln Trp Val  
   65                                    70                                    75                                    80  
  
 Val Ser Ala Ala His Cys Phe Pro Arg Glu His Ser Lys Glu Glu Tyr  
                                  85                                    90                                    95  
  
 Glu Val Lys Leu Gly Ala His Gln Leu Asp Ser Phe Ser Asn Asp Ile  
                                  100                                    105                                    110  
  
 Val Val His Thr Val Ala Gln Ile Ile Ser His Ser Ser Tyr Arg Glu  
                                  115                                    120                                    125  
  
 Glu Gly Ser Gln Gly Asp Ile Ala Leu Ile Arg Leu Ser Ser Pro Val  
                                  130                                    135                                    140  
  
 Thr Phe Ser Arg Tyr Ile Arg Pro Ile Cys Leu Pro Ala Ala Asn Ala  
   145                                    150                                    155                                    160  
  
 Ser Phe Pro Asn Gly Leu His Cys Thr Val Thr Gly Trp Gly His Val  
                                  165                                    170                                    175  
  
 Ala Pro Ser Val Ser Leu Gln Thr Pro Arg Pro Leu Gln Gln Leu Glu  
                                  180                                    185                                    190  
  
 Val Pro Leu Ile Ser Arg Glu Thr Cys Ser Cys Leu Tyr Asn Ile Asn  
                                  195                                    200                                    205  
  
 Ala Val Pro Glu Glu Pro His Thr Ile Gln Gln Asp Met Leu Cys Ala  
                                  210                                    215                                    220

Gly Tyr Val Lys Gly Gly Lys Asp Ala Cys Gln Gly Asp Ser Gly Gly  
 225 230 235 240  
 Pro Leu Ser Cys Pro Ile Asp Gly Leu Trp Tyr Leu Ala Gly Ile Val  
 245 250 255  
 Ser Trp Gly Asp Ala Cys Gly Ala Pro Asn Arg Pro Gly Val Tyr Thr  
 260 265 270  
 Leu Thr Ser Thr Tyr Ala Ser Trp Ile His His His Val Ala Glu Leu  
 275 280 285  
 Gln Pro Arg Val Val Pro Gln Thr Gln Glu Ser Gln Pro Asp Gly His  
 290 295 300  
 Leu Cys Asn His His Pro Val Phe Asn Leu Ala Ala Ala Gln Lys Leu  
 305 310 315 320  
 Ser Arg Pro Ile Leu Phe Leu Pro Leu Ser Leu Thr Leu Gly Leu Phe  
 325 330 335  
 Ser Leu Trp Leu Glu His  
 340

<210> 152  
 <211> 342  
 <212> PRT  
 <213> Rattus norvegicus

<400> 152  
 Met Ala Leu Arg Val Gly Leu Gly Leu Gly Gln Leu Glu Ala Leu Phe  
 1 5 10 15  
 Ile Leu Leu Leu Ile Gly Leu Leu Gln Ser Arg Ile Gly Ala Asp Gly  
 20 25 30  
 Thr Glu Ala Ser Cys Gly Ala Val Ile Gln Pro Arg Ile Thr Gly Gly  
 35 40 45  
 Gly Ser Ala Lys Pro Gly Gln Trp Pro Trp Gln Val Ser Ile Thr Tyr  
 50 55 60  
 Asn Gly Val His Val Cys Gly Gly Ser Leu Val Ser Asn Gln Trp Val  
 65 70 75 80  
 Val Ser Ala Ala His Cys Phe Pro Arg Glu His Ser Lys Glu Glu Tyr  
 85 90 95  
 Glu Val Lys Leu Gly Ala His Gln Leu Asp Ser Phe Ser Asn Asp Ile  
 100 105 110  
 Val Val His Thr Val Ala Gln Ile Ile Ser His Ser Ser Tyr Arg Glu  
 115 120 125  
 Glu Gly Ser Gln Gly Asp Ile Ala Leu Ile Arg Leu Ser Ser Pro Val  
 130 135 140

Thr Phe Ser Arg Tyr Ile Arg Pro Ile Cys Leu Pro Ala Ala Asn Ala  
 145 150 155 160  
 Ser Phe Pro Asn Gly Leu His Cys Thr Val Thr Gly Trp Gly His Val  
 165 170 175  
 Ala Pro Ser Val Ser Leu Gln Thr Pro Arg Pro Leu Gln Gln Leu Glu  
 180 185 190  
 Val Pro Leu Ile Ser Arg Glu Thr Cys Ser Cys Leu Tyr Asn Ile Asn  
 195 200 205  
 Ala Val Pro Glu Glu Pro His Thr Ile Gln Gln Asp Met Leu Cys Ala  
 210 215 220  
 Gly Tyr Val Lys Gly Gly Lys Asp Ala Cys Gln Gly Asp Ser Gly Gly  
 225 230 235 240  
 Pro Leu Ser Cys Pro Ile Asp Gly Leu Trp Tyr Leu Ala Gly Ile Val  
 245 250 255  
 Ser Trp Gly Asp Ala Cys Gly Ala Pro Asn Arg Pro Gly Val Tyr Thr  
 260 265 270  
 Leu Thr Ser Thr Tyr Ala Ser Trp Ile His His His Val Ala Glu Leu  
 275 280 285  
 Gln Pro Arg Ala Val Pro Gln Thr Gln Glu Ser Gln Pro Asp Gly His  
 290 295 300  
 Leu Cys Asn His His Pro Val Phe Asn Leu Ala Ala Ala Gln Lys Leu  
 305 310 315 320  
 Ser Arg Pro Ile Leu Phe Leu Pro Leu Ser Leu Thr Leu Gly Leu Phe  
 325 330 335  
 Ser Leu Trp Leu Glu His  
 340

<210> 153

<211> 339

<212> PRT

<213> Mus musculus

<400> 153

Met Ala Leu Arg Val Gly Leu Gly Leu Gly Gln Leu Glu Ala Val Thr  
 1 5 10 15

Ile Leu Leu Leu Leu Gly Leu Leu Gln Ser Gly Ile Arg Ala Asp Gly  
 20 25 30

Thr Glu Ala Ser Cys Gly Ala Val Ile Gln Pro Arg Ile Thr Gly Gly  
 35 40 45

Gly Ser Ala Lys Pro Gly Gln Trp Pro Trp Gln Val Ser Ile Thr Tyr

50					55					60					
Asp	Gly	Asn	His	Val	Cys	Gly	Gly	Ser	Leu	Val	Ser	Asn	Lys	Trp	Val
65					70					75					80
Val	Ser	Ala	Ala	His	Cys	Phe	Pro	Arg	Glu	His	Ser	Arg	Glu	Ala	Tyr
				85					90					95	
Glu	Val	Lys	Leu	Gly	Ala	His	Gln	Leu	Asp	Ser	Tyr	Ser	Asn	Asp	Thr
			100					105					110		
Val	Val	His	Thr	Val	Ala	Gln	Ile	Ile	Thr	His	Ser	Ser	Tyr	Arg	Glu
		115					120					125			
Glu	Gly	Ser	Gln	Gly	Asp	Ile	Ala	Leu	Ile	Arg	Leu	Ser	Ser	Pro	Val
	130					135					140				
Thr	Phe	Ser	Arg	Tyr	Ile	Arg	Pro	Ile	Cys	Leu	Pro	Ala	Ala	Asn	Ala
145					150					155					160
Ser	Phe	Pro	Asn	Gly	Leu	His	Cys	Thr	Val	Thr	Gly	Trp	Gly	His	Val
				165					170					175	
Ala	Pro	Ser	Val	Ser	Leu	Gln	Thr	Pro	Arg	Pro	Leu	Gln	Gln	Leu	Glu
			180					185					190		
Val	Pro	Leu	Ile	Ser	Arg	Glu	Thr	Cys	Ser	Cys	Leu	Tyr	Asn	Ile	Asn
		195					200					205			
Ala	Val	Pro	Glu	Glu	Pro	His	Thr	Ile	Gln	Gln	Asp	Met	Leu	Cys	Ala
	210					215					220				
Gly	Tyr	Val	Lys	Gly	Gly	Lys	Asp	Ala	Cys	Gln	Gly	Asp	Ser	Gly	Gly
225					230					235					240
Pro	Leu	Ser	Cys	Pro	Met	Glu	Gly	Ile	Trp	Tyr	Leu	Ala	Gly	Ile	Val
				245					250					255	
Ser	Trp	Gly	Asp	Ala	Cys	Gly	Ala	Pro	Asn	Arg	Pro	Gly	Val	Tyr	Thr
			260					265					270		
Leu	Thr	Ser	Thr	Tyr	Ala	Ser	Trp	Ile	His	His	His	Val	Ala	Glu	Leu
		275					280					285			
Gln	Pro	Arg	Val	Val	Pro	Gln	Thr	Gln	Glu	Ser	Gln	Pro	Asp	Gly	His
	290					295					300				
Leu	Cys	Asn	His	His	Pro	Val	Phe	Ser	Ser	Ala	Ala	Ala	Pro	Lys	Leu
305					310					315					320
Leu	Arg	Pro	Val	Leu	Phe	Leu	Pro	Leu	Gly	Leu	Thr	Leu	Gly	Leu	Leu
				325					330					335	
Ser	Leu	Ala													

<210> 154

<211> 342

<212> PRT

<213> Mus musculus

<400> 154

Met	Ala	Pro	Arg	Val	Gly	Leu	Gly	Leu	Gly	Gln	Leu	Glu	Ala	Val	Thr
1				5					10					15	
Ile	Leu	Leu	Leu	Leu	Gly	Leu	Leu	Gln	Ser	Gly	Ile	Arg	Ala	Asp	Gly
			20					25					30		
Thr	Glu	Ala	Ser	Cys	Gly	Ala	Val	Ile	Gln	Pro	Arg	Ile	Thr	Gly	Gly
		35					40					45			
Gly	Ser	Ala	Lys	Pro	Gly	Gln	Trp	Pro	Trp	Gln	Val	Ser	Ile	Thr	Tyr
	50					55					60				
Asp	Gly	Asn	His	Val	Cys	Gly	Gly	Ser	Leu	Val	Ser	Asn	Lys	Trp	Val
65					70					75					80
Val	Ser	Ala	Ala	His	Cys	Phe	Pro	Arg	Glu	His	Ser	Arg	Glu	Ala	Tyr
				85					90					95	
Glu	Val	Lys	Leu	Gly	Ala	His	Gln	Leu	Asp	Ser	Tyr	Ser	Asn	Asp	Thr
			100					105					110		
Val	Val	His	Thr	Val	Ala	Gln	Ile	Ile	Thr	His	Ser	Ser	Tyr	Arg	Glu
		115					120					125			
Glu	Gly	Ser	Gln	Gly	Asp	Ile	Ala	Phe	Ile	Arg	Leu	Ser	Ser	Pro	Val
	130					135					140				
Thr	Phe	Ser	Arg	Tyr	Ile	Arg	Pro	Ile	Cys	Leu	Pro	Ala	Ala	Asn	Ala
145					150					155					160
Ser	Phe	Pro	Asn	Gly	Leu	His	Cys	Thr	Val	Thr	Gly	Trp	Gly	His	Val
				165					170					175	
Ala	Pro	Ser	Val	Ser	Leu	Gln	Thr	Pro	Arg	Pro	Leu	Gln	Gln	Leu	Glu
			180					185					190		
Val	Pro	Leu	Ile	Ser	Arg	Glu	Thr	Cys	Ser	Cys	Leu	Tyr	Asn	Ile	Asn
		195					200					205			
Ala	Val	Pro	Glu	Glu	Pro	His	Thr	Ile	Gln	Gln	Asp	Met	Leu	Cys	Ala
	210					215					220				
Gly	Tyr	Val	Lys	Gly	Gly	Lys	Asp	Ala	Cys	Gln	Gly	Asp	Ser	Gly	Gly
225					230					235					240
Pro	Leu	Ser	Cys	Pro	Met	Glu	Gly	Ile	Trp	Tyr	Leu	Ala	Gly	Ile	Val
				245					250					255	
Ser	Trp	Gly	Asp	Ala	Cys	Gly	Ala	Pro	Asn	Arg	Pro	Gly	Val	Tyr	Thr
			260					265					270		

Leu Thr Ser Thr Tyr Ala Ser Trp Ile His His His Val Ala Glu Leu  
 275 280 285  
 Gln Pro Arg Val Val Pro Gln Thr Gln Glu Ser Gln Pro Asp Gly His  
 290 295 300  
 Leu Cys Asn His His Pro Val Phe Ser Ser Ala Ala Ala Pro Lys Leu  
 305 310 315 320  
 Leu Arg Pro Val Leu Phe Leu Pro Leu Gly Leu Thr Leu Gly Leu Leu  
 325 330 335  
 Ser Leu Trp Leu Glu His  
 340  
 <210> 155  
 <211> 230  
 <212> PRT  
 <213> Homo sapiens  
 <400> 155  
 Arg Ile Val Gly Gly Ser Glu Ala Asn Ile Gly Ser Phe Pro Trp Gln  
 1 5 10 15  
 Val Ser Leu Gln Tyr Arg Gly Gly Arg His Phe Cys Gly Gly Ser Leu  
 20 25 30  
 Ile Ser Pro Arg Trp Val Leu Thr Ala Ala His Cys Val Tyr Gly Ser  
 35 40 45  
 Ala Pro Ser Ser Ile Arg Val Arg Leu Gly Ser His Asp Leu Ser Ser  
 50 55 60  
 Gly Glu Glu Thr Gln Thr Val Lys Val Ser Lys Val Ile Val His Pro  
 65 70 75 80  
 Asn Tyr Asn Pro Ser Thr Tyr Asp Asn Asp Ile Ala Leu Leu Lys Leu  
 85 90 95  
 Ser Glu Pro Val Thr Leu Ser Asp Thr Val Arg Pro Ile Cys Leu Pro  
 100 105 110  
 Ser Ser Gly Tyr Asn Val Pro Ala Gly Thr Thr Cys Thr Val Ser Gly  
 115 120 125  
 Trp Gly Arg Thr Ser Glu Ser Ser Gly Ser Leu Pro Asp Thr Leu Gln  
 130 135 140  
 Glu Val Asn Val Pro Ile Val Ser Asn Ala Thr Cys Arg Arg Ala Tyr  
 145 150 155 160  
 Ser Gly Gly Pro Ala Ile Thr Asp Asn Met Leu Cys Ala Gly Gly Leu  
 165 170 175  
 Glu Gly Gly Lys Asp Ala Cys Gln Gly Asp Ser Gly Gly Pro Leu Val  
 180 185 190

Cys Asn Asp Pro Arg Trp Val Leu Val Gly Ile Val Ser Trp Gly Ser  
 195 200 205

Tyr Gly Cys Ala Arg Pro Asn Lys Pro Gly Val Tyr Thr Arg Val Ser  
 210 215 220

Ser Tyr Leu Asp Trp Ile  
 225 230

<210> 156  
 <211> 217  
 <212> PRT  
 <213> Homo sapiens

<400> 156  
 Ile Val Gly Gly Arg Glu Ala Gln Ala Gly Ser Phe Pro Trp Gln Val  
 1 5 10 15

Ser Leu Gln Val Ser Ser Gly His Phe Cys Gly Gly Ser Leu Ile Ser  
 20 25 30

Glu Asn Trp Val Leu Thr Ala Ala His Cys Val Ser Gly Ala Ser Ser  
 35 40 45

Val Arg Val Val Leu Gly Glu His Asn Leu Gly Thr Thr Glu Gly Thr  
 50 55 60

Glu Gln Lys Phe Asp Val Lys Lys Ile Ile Val His Pro Asn Tyr Asn  
 65 70 75 80

Pro Asp Thr Asn Asp Ile Ala Leu Leu Lys Leu Lys Ser Pro Val Thr  
 85 90 95

Leu Gly Asp Thr Val Arg Pro Ile Cys Leu Pro Ser Ala Ser Ser Asp  
 100 105 110

Leu Pro Val Gly Thr Thr Cys Ser Val Ser Gly Trp Gly Arg Thr Lys  
 115 120 125

Asn Leu Gly Thr Ser Asp Thr Leu Gln Glu Val Val Val Pro Ile Val  
 130 135 140

Ser Arg Glu Thr Cys Arg Ser Ala Tyr Gly Gly Thr Val Thr Asp Thr  
 145 150 155 160

Met Ile Cys Ala Gly Ala Leu Gly Gly Lys Asp Ala Cys Gln Gly Asp  
 165 170 175

Ser Gly Gly Pro Leu Val Cys Ser Asp Gly Glu Leu Val Gly Ile Val  
 180 185 190

Ser Trp Gly Tyr Gly Cys Ala Val Gly Asn Tyr Pro Gly Val Tyr Thr  
 195 200 205

Arg Val Ser Arg Tyr Leu Asp Trp Ile

210

215

&lt;210&gt; 157

&lt;211&gt; 980

&lt;212&gt; PRT

&lt;213&gt; Mus musculus

&lt;400&gt; 157

Met Ala Ala Ala Thr Ala Ser Ser Ala Leu Lys Arg Leu Asp Leu Arg  
 1 5 10 15

Asp Pro Asn Ala Leu Phe Glu Thr His Gly Ala Glu Glu Ile Arg Gly  
 20 25 30

Leu Glu Arg Gln Val Arg Ala Glu Ile Glu His Lys Lys Glu Glu Leu  
 35 40 45

Arg Gln Met Val Gly Glu Arg Tyr Arg Asp Leu Ile Glu Ala Ala Asp  
 50 55 60

Thr Ile Gly Gln Met Arg Arg Cys Ala Glu Gly Leu Val Asp Ala Val  
 65 70 75 80

Gln Ala Thr Asp Gln Tyr Cys Ala Arg Leu Arg Gln Ala Gly Ser Val  
 85 90 95

Ala Pro Arg Val Pro Arg Ala Pro Gln Pro Gln Pro Pro Ser Glu Lys  
 100 105 110

Phe Tyr Ser Met Ala Ala Gln Ile Lys Leu Leu Leu Glu Ile Pro Glu  
 115 120 125

Lys Ile Trp Ser Ala Met Glu Ala Ser Gln His Leu Gln Ala Thr Gln  
 130 135 140

Leu Tyr Leu Leu Cys Cys His Leu His Ser Leu Leu Gln Leu Asp Ser  
 145 150 155 160

Ser Asn Ser Arg Tyr Ser Pro Ile Leu Ser Arg Phe Pro Ile Leu Ile  
 165 170 175

Arg Gln Val Ala Ala Ala Ser His Phe Arg Ser Thr Ile Leu His Glu  
 180 185 190

Ser Lys Met Leu Leu Lys Cys Gln Ala Val Ser Asp Gln Ala Val Ala  
 195 200 205

Glu Ala Leu Cys Ser Ile Met Leu Leu Glu Glu Ser Ser Pro Arg Gln  
 210 215 220

Ala Leu Thr Asp Phe Leu Leu Ala Arg Lys Ala Thr Ile Gln Thr Leu  
 225 230 235 240

Leu Asn Gln Ser His His Gly Ala Gly Ile Lys Ala Gln Ile Cys Ser  
 245 250 255



Leu Val Glu Leu Leu Ala Thr Thr Leu Asn Gln Ala His Ala Leu Phe  
 260 265 270  
 Tyr Thr Leu Pro Glu Gly Val Leu Pro Asp Pro Ser Leu Pro Cys Gly  
 275 280 285  
 Leu Leu Phe Ser Thr Leu Glu Thr Val Thr Arg Gln His Pro Thr Gly  
 290 295 300  
 Lys Gly Ile Gly Ala Leu Gln Gly Glu Met Lys Leu Cys Ser Trp Leu  
 305 310 315 320  
 Arg His Leu Pro Thr Ser Ile Ile Glu Phe Gln Pro Thr Leu Arg Thr  
 325 330 335  
 Leu Ala His Pro Ile Ser Gln Glu Tyr Leu Lys Asp Thr Leu Gln Lys  
 340 345 350  
 Trp Ile Asp Met Cys Asn Glu Asp Ile Lys Asn Gly Ile Gly Asn Leu  
 355 360 365  
 Leu Met Tyr Val Lys Ser Met Lys Gly Leu Ala Gly Ile Arg Asp Ala  
 370 375 380  
 Ile Trp Asp Leu Leu Ser Asn Glu Ser Ala Ser His Ser Trp Glu Val  
 385 390 395 400  
 Val Cys Gln Arg Leu Leu Glu Lys Pro Leu Leu Phe Trp Glu Asp Leu  
 405 410 415  
 Met Gln Gln Leu Phe Leu Asp Arg Leu Gln Thr Leu Thr Arg Glu Gly  
 420 425 430  
 Phe Glu Ser Ile Ser Asn Ser Ser Lys Glu Leu Leu Val Ser Ala Leu  
 435 440 445  
 Gln Glu Leu Glu Thr Asn Asn Ser Thr Ser Asn Lys His Val His Phe  
 450 455 460  
 Glu Gln Asn Met Ser Phe Phe Leu Trp Ser Glu Ser Pro Asn Asp Leu  
 465 470 475 480  
 Pro Ser Asp Ala Ala Trp Val Ser Val Ala Asn Arg Ala Gln Phe Ala  
 485 490 495  
 Ser Ser Gly Leu Ser Met Lys Ala Gln Ala Ile Ser Pro Cys Val Gln  
 500 505 510  
 Asn Phe Cys Ser Ala Leu Asp Ser Lys Leu Lys Val Lys Leu Asp Asp  
 515 520 525  
 Leu Leu Ala Tyr Leu Pro Ser Ser Asp Thr Pro Leu Leu Lys Asp Thr  
 530 535 540  
 Thr Pro Thr His Gln Pro Lys Asn Ser Ala Phe Asp Arg Tyr Ala Asp  
 545 550 555 560

Thr	Gly	Thr	Val	Gln	Asp	Met	Leu	Arg	Thr	Gln	Ser	Val	Ala	Cys	Ile	
				565					570					575		
Lys	Ser	Val	Val	Gly	Cys	Ile	Gln	Ala	Glu	Leu	Cys	Thr	Ile	Glu	Glu	
			580					585					590			
Val	Thr	Arg	Glu	Gln	Lys	Asp	Val	Leu	His	Ser	Thr	Lys	Leu	His	Ala	
		595					600					605				
Val	Leu	Phe	Met	Ala	Arg	Leu	Cys	Gln	Ser	Leu	Gly	Glu	Leu	Cys	Pro	
	610					615					620					
His	Leu	Lys	Gln	Cys	Ile	Val	Gly	Gln	Cys	Gly	Gly	Ser	Glu	Lys	Pro	
625					630					635					640	
Ala	Arg	Glu	Ala	Arg	Ala	Leu	Lys	Lys	Gln	Gly	Lys	Gly	Arg	Ala	Gln	
				645					650					655		
Asp	Val	Leu	Pro	Ala	Gln	Ala	Gln	Trp	Gln	Gly	Val	Lys	Glu	Val	Leu	
			660					665					670			
Leu	Gln	Gln	Ser	Val	Met	Ala	Tyr	Arg	Val	Trp	Ser	Thr	Ala	Leu	Val	
		675					680					685				
Lys	Phe	Leu	Ile	Cys	Gly	Phe	Thr	Arg	Ser	Leu	Leu	Leu	Arg	Asp	Ala	
	690					695					700					
Gly	Ser	Val	Leu	Ala	Thr	Ala	Thr	Asn	Trp	Asp	Glu	Leu	Glu	Ile	Gln	
705					710					715					720	
Glu	Gly	Thr	Glu	Ser	Gly	Ser	Ser	Val	Thr	Ser	Lys	Ile	Arg	Leu	Pro	
				725					730					735		
Thr	Gln	Pro	Ser	Trp	Tyr	Val	Gln	Ser	Phe	Leu	Phe	Ser	Leu	Cys	Gln	
			740					745					750			
Glu	Val	Asn	Arg	Val	Gly	Gly	His	Ala	Leu	Pro	Lys	Val	Thr	Leu	Gln	
		755					760					765				
Glu	Met	Leu	Glu	Thr	Cys	Met	Ala	Gln	Val	Ile	Ala	Ala	Tyr	Glu	Gln	
	770					775					780					
Leu	Thr	Glu	Glu	Asn	Gln	Ile	Lys	Lys	Glu	Gly	Ala	Phe	Pro	Met	Thr	
785					790					795					800	
Gln	Asn	Arg	Ala	Leu	Gln	Leu	Leu	Tyr	Asp	Leu	Arg	Tyr	Leu	Thr	Met	
				805					810					815		
Val	Leu	Ser	Ser	Lys	Gly	Glu	Glu	Val	Lys	Ser	Gly	Arg	Ser	Lys	Ala	
				820				825					830			
Asp	Ser	Arg	Met	Glu	Lys	Met	Thr	Glu	Arg	Leu	Glu	Ala	Leu	Ile	Asp	
			835				840					845				
Pro	Phe	Asp	Leu	Asp	Val	Phe	Thr	Pro	His	Leu	Asn	Ser	Asn	Leu	Asn	
	850					855					860					

Arg Leu Val Gln Arg Thr Ser Val Leu Phe Gly Leu Val Thr Gly Thr  
 865 870 875 880  
 Glu Asn Gln Phe Ala Ser Arg Ser Ser Thr Phe Asn Ser Gln Glu Pro  
 885 890 895  
 His Asn Ile Leu Pro Leu Ala Ser Ser Gln Ile Arg Phe Gly Leu Leu  
 900 905 910  
 Pro Leu Ser Met Thr Ser Thr Arg Lys Ala Arg Ala Thr Ser Arg Ser  
 915 920 925  
 Val Glu Thr Gln Ala Gln Val Gly Pro Pro Ala Leu Ser Arg Val Gly  
 930 935 940  
 Asp Pro Thr Thr His Pro Gly Ser Leu Phe Arg Gln Leu Ala Ser Glu  
 945 950 955 960  
 Glu Asp Asp Ser Pro Ala Pro Ser Leu Phe Lys Leu Ala Trp Leu Ser  
 965 970 975  
 Ser Met Thr Lys  
 980

<210> 158  
 <211> 961  
 <212> PRT  
 <213> Homo sapiens

<400> 158  
 Ala Thr Ala Ala Thr Ser Pro Ala Leu Lys Arg Leu Asp Leu Arg Asp  
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 Pro Ala Ala Leu Phe Glu Thr His Gly Ala Glu Glu Ile Arg Gly Leu  
 20 25 30  
 Glu Arg Gln Val Arg Ala Glu Ile Glu His Lys Lys Glu Glu Leu Arg  
 35 40 45  
 Gln Met Val Gly Glu Arg Tyr Arg Asp Leu Ile Glu Ala Ala Asp Thr  
 50 55 60  
 Ile Gly Gln Met Arg Arg Cys Ala Val Gly Leu Val Asp Ala Val Lys  
 65 70 75 80  
 Ala Thr Asp Gln Tyr Cys Ala Arg Leu Arg Gln Ala Gly Ser Ala Ala  
 85 90 95  
 Pro Arg Pro Pro Arg Ala Gln Gln Pro Gln Gln Pro Ser Gln Glu Lys  
 100 105 110  
 Phe Tyr Ser Met Ala Ala Gln Ile Lys Leu Leu Leu Glu Ile Pro Glu  
 115 120 125  
 Lys Ile Trp Ser Ser Met Glu Ala Ser Gln Cys Leu His Ala Thr Gln  
 130 135 140

Leu	Tyr	Leu	Leu	Cys	Cys	His	Leu	His	Ser	Leu	Leu	Gln	Leu	Asp	Ser	145	150	155	160
Ser	Ser	Ser	Arg	Tyr	Ser	Pro	Val	Leu	Ser	Arg	Phe	Pro	Ile	Leu	Ile	165	170	175	
Arg	Gln	Val	Ala	Ala	Ala	Ser	His	Phe	Arg	Ser	Thr	Ile	Leu	His	Glu	180	185	190	
Ser	Lys	Met	Leu	Leu	Lys	Cys	Gln	Gly	Val	Ser	Asp	Gln	Ala	Val	Ala	195	200	205	
Glu	Ala	Leu	Cys	Ser	Ile	Met	Leu	Leu	Glu	Glu	Ser	Ser	Pro	Arg	Gln	210	215	220	
Ala	Leu	Thr	Asp	Phe	Leu	Leu	Ala	Arg	Lys	Ala	Thr	Ile	Gln	Lys	Leu	225	230	235	240
Leu	Asn	Gln	Pro	His	His	Gly	Ala	Gly	Ile	Lys	Ala	Gln	Ile	Cys	Ser	245	250	255	
Leu	Val	Glu	Leu	Leu	Ala	Thr	Thr	Leu	Lys	Gln	Ala	His	Ala	Leu	Phe	260	265	270	
Tyr	Thr	Leu	Pro	Glu	Gly	Leu	Leu	Pro	Asp	Pro	Ala	Leu	Pro	Cys	Gly	275	280	285	
Leu	Leu	Phe	Ser	Thr	Leu	Glu	Thr	Ile	Thr	Gly	Gln	His	Pro	Ala	Gly	290	295	300	
Lys	Gly	Thr	Gly	Val	Leu	Gln	Glu	Glu	Met	Lys	Leu	Cys	Ser	Trp	Phe	305	310	315	320
Lys	His	Leu	Pro	Ala	Ser	Ile	Val	Glu	Phe	Gln	Pro	Thr	Leu	Arg	Thr	325	330	335	
Leu	Ala	His	Pro	Ile	Ser	Gln	Glu	Tyr	Leu	Lys	Asp	Thr	Leu	Gln	Lys	340	345	350	
Trp	Ile	His	Met	Cys	Asn	Glu	Asp	Ile	Lys	Asn	Gly	Ile	Thr	Asn	Leu	355	360	365	
Leu	Met	Tyr	Val	Lys	Ser	Met	Lys	Gly	Leu	Ala	Gly	Ile	Pro	Asp	Ala	370	375	380	
Met	Trp	Glu	Leu	Leu	Thr	Asn	Glu	Ser	Thr	Asn	His	Ser	Trp	Asp	Val	385	390	395	400
Leu	Cys	Arg	Arg	Leu	Leu	Glu	Lys	Pro	Leu	Leu	Phe	Trp	Glu	Asp	Met	405	410	415	
Met	Gln	Gln	Leu	Phe	Leu	Asp	Arg	Leu	Gln	Thr	Leu	Thr	Lys	Glu	Gly	420	425	430	
Phe	Asp	Ser	Ile	Ser	Ser	Ser	Ser	Lys	Glu	Leu	Leu	Val	Ser	Ala	Leu	435	440	445	

Gln Glu Leu Glu Ser Ser Thr Ser Asn Ser Pro Ser Asn Lys His Ile  
 450 455 460  
 His Phe Glu Tyr Asn Met Ser Leu Phe Leu Trp Ser Glu Ser Pro Asn  
 465 470 475 480  
 Asp Leu Pro Ser Asp Ala Ala Trp Val Ser Val Ala Asn Arg Gly Gln  
 485 490 495  
 Phe Ala Ser Ser Gly Leu Ser Met Lys Ala Gln Ala Ile Ser Pro Cys  
 500 505 510  
 Val Gln Asn Phe Cys Ser Ala Leu Asp Ser Lys Leu Lys Val Lys Leu  
 515 520 525  
 Asp Asp Leu Leu Ala Tyr Leu Pro Ser Asp Asp Ser Ser Leu Pro Lys  
 530 535 540  
 Asp Val Ser Pro Thr Gln Ala Lys Ser Ser Ala Phe Asp Arg Tyr Ala  
 545 550 555 560  
 Asp Ala Gly Thr Val Gln Glu Met Leu Arg Thr Gln Ser Val Ala Cys  
 565 570 575  
 Ile Lys His Ile Val Asp Cys Ile Arg Ala Glu Leu Gln Ser Ile Glu  
 580 585 590  
 Glu Gly Val Gln Gly Gln Gln Asp Ala Leu Asn Ser Ala Lys Leu His  
 595 600 605  
 Ser Val Leu Phe Met Ala Arg Leu Cys Gln Ser Leu Gly Glu Leu Cys  
 610 615 620  
 Pro His Leu Lys Gln Cys Ile Leu Gly Lys Ser Glu Ser Ser Glu Lys  
 625 630 635 640  
 Pro Ala Arg Glu Phe Arg Ala Leu Arg Lys Gln Gly Lys Val Lys Thr  
 645 650 655  
 Gln Glu Ile Ile Pro Thr Gln Ala Lys Trp Gln Glu Val Lys Glu Val  
 660 665 670  
 Leu Leu Gln Gln Ser Val Met Gly Tyr Gln Val Trp Ser Ser Ala Val  
 675 680 685  
 Val Lys Val Leu Ile His Gly Phe Thr Gln Ser Leu Leu Leu Asp Asp  
 690 695 700  
 Ala Gly Ser Val Leu Ala Thr Ala Thr Ser Trp Asp Glu Leu Glu Ile  
 705 710 715 720  
 Gln Glu Glu Ala Glu Ser Gly Ser Ser Val Thr Ser Lys Ile Arg Leu  
 725 730 735  
 Pro Ala Gln Pro Ser Trp Tyr Val Gln Ser Phe Leu Phe Ser Leu Cys  
 740 745 750

Gln Glu Ile Asn Arg Val Gly Gly His Ala Leu Pro Lys Val Thr Leu  
 755 760 765  
 Gln Glu Met Leu Lys Ser Cys Met Val Gln Val Val Ala Ala Tyr Glu  
 770 775 780  
 Lys Leu Ser Glu Glu Lys Gln Ile Lys Lys Glu Gly Ala Phe Pro Val  
 785 790 795 800  
 Thr Gln Asn Arg Ala Leu Gln Leu Leu Tyr Asp Leu Arg Tyr Leu Asn  
 805 810 815  
 Ile Val Leu Thr Ala Lys Gly Asp Glu Val Lys Ser Gly Arg Ser Lys  
 820 825 830  
 Pro Asp Ser Arg Ile Glu Lys Val Thr Asp His Leu Glu Ala Leu Ile  
 835 840 845  
 Asp Pro Phe Asp Leu Asp Val Phe Thr Pro His Leu Asn Ser Asn Leu  
 850 855 860  
 His Arg Leu Val Gln Arg Thr Ser Val Leu Phe Gly Leu Val Thr Gly  
 865 870 875 880  
 Thr Glu Asn Gln Leu Ala Pro Arg Ser Ser Thr Phe Asn Ser Gln Glu  
 885 890 895  
 Pro His Asn Ile Leu Pro Leu Ala Ser Ser Gln Ile Arg Phe Gly Leu  
 900 905 910  
 Leu Pro Leu Ser Met Thr Ser Thr Arg Lys Ala Lys Ser Thr Arg Asn  
 915 920 925  
 Ile Glu Thr Lys Ala Gln Val Gly Ala Lys Ser Lys Arg Leu Ile Arg  
 930 935 940  
 Gly Trp Val Pro Thr Ser His Arg Ala Thr His Asp Gln Leu Pro Phe  
 945 950 955 960  
 Lys

<210> 159  
 <211> 962  
 <212> PRT  
 <213> Homo sapiens

<400> 159  
 Met Ala Thr Ala Ala Thr Ser Pro Ala Leu Lys Arg Leu Asp Leu Arg  
 1 5 10 15  
 Asp Pro Ala Ala Leu Phe Glu Thr His Gly Ala Glu Glu Ile Arg Gly  
 20 25 30  
 Leu Glu Arg Gln Val Arg Ala Glu Ile Glu His Lys Lys Glu Glu Leu

35					40					45						
Arg	Gln	Met	Val	Gly	Glu	Arg	Tyr	Arg	Asp	Leu	Ile	Glu	Ala	Ala	Asp	
50					55					60						
Thr	Ile	Gly	Gln	Met	Arg	Arg	Cys	Ala	Val	Gly	Leu	Val	Asp	Ala	Val	
65					70					75					80	
Lys	Ala	Thr	Asp	Gln	Tyr	Cys	Ala	Arg	Leu	Arg	Gln	Ala	Gly	Ser	Ala	
85					90					95						
Ala	Pro	Arg	Pro	Pro	Arg	Ala	Gln	Gln	Pro	Gln	Gln	Pro	Ser	Gln	Glu	
100					105					110						
Lys	Phe	Tyr	Ser	Met	Ala	Ala	Gln	Ile	Lys	Leu	Leu	Leu	Glu	Ile	Pro	
115					120					125						
Glu	Lys	Ile	Trp	Ser	Ser	Met	Glu	Ala	Ser	Gln	Cys	Leu	His	Ala	Thr	
130					135					140						
Gln	Leu	Tyr	Leu	Leu	Cys	Cys	His	Leu	His	Ser	Leu	Leu	Gln	Leu	Asp	
145					150					155					160	
Ser	Ser	Ser	Ser	Arg	Tyr	Ser	Pro	Val	Leu	Ser	Arg	Phe	Pro	Ile	Leu	
165					170					175						
Ile	Arg	Gln	Val	Ala	Ala	Ala	Ser	His	Phe	Arg	Ser	Thr	Ile	Leu	His	
180					185					190						
Glu	Ser	Lys	Met	Leu	Leu	Lys	Cys	Gln	Gly	Val	Ser	Asp	Gln	Ala	Val	
195					200					205						
Ala	Glu	Ala	Leu	Cys	Ser	Ile	Met	Leu	Leu	Glu	Glu	Ser	Ser	Pro	Arg	
210					215					220						
Gln	Ala	Leu	Thr	Asp	Phe	Leu	Leu	Ala	Arg	Lys	Ala	Thr	Ile	Gln	Lys	
225					230					235					240	
Leu	Leu	Asn	Gln	Pro	His	His	Gly	Ala	Gly	Ile	Lys	Ala	Gln	Ile	Cys	
245					250					255						
Ser	Leu	Val	Glu	Leu	Leu	Ala	Thr	Thr	Leu	Lys	Gln	Ala	His	Ala	Leu	
260					265					270						
Phe	Tyr	Thr	Leu	Pro	Glu	Gly	Leu	Leu	Pro	Asp	Pro	Ala	Leu	Pro	Cys	
275					280					285						
Gly	Leu	Leu	Phe	Ser	Thr	Leu	Glu	Thr	Ile	Thr	Gly	Gln	His	Pro	Ala	
290					295					300						
Gly	Lys	Gly	Thr	Gly	Val	Leu	Gln	Glu	Glu	Met	Lys	Leu	Cys	Ser	Trp	
305					310					315					320	
Phe	Lys	His	Leu	Pro	Ala	Ser	Ile	Val	Glu	Phe	Gln	Pro	Thr	Leu	Arg	
325					330					335						
Thr	Leu	Ala	His	Pro	Ile	Ser	Gln	Glu	Tyr	Leu	Lys	Asp	Thr	Leu	Gln	

340					345					350					
Lys	Trp	Ile	His	Met	Cys	Asn	Glu	Asp	Ile	Lys	Asn	Gly	Ile	Thr	Asn
355					360					365					
Leu	Leu	Met	Tyr	Val	Lys	Ser	Met	Lys	Gly	Leu	Ala	Gly	Ile	Arg	Asp
370					375					380					
Ala	Met	Trp	Glu	Leu	Leu	Thr	Asn	Glu	Ser	Thr	Asn	His	Ser	Trp	Asp
385					390					395					
Val	Leu	Cys	Arg	Arg	Leu	Leu	Glu	Lys	Pro	Leu	Leu	Phe	Trp	Glu	Asp
405					410					415					
Met	Met	Gln	Gln	Leu	Phe	Leu	Asp	Arg	Leu	Gln	Thr	Leu	Thr	Lys	Glu
420					425					430					
Gly	Phe	Asp	Ser	Ile	Ser	Ser	Ser	Ser	Lys	Glu	Leu	Leu	Val	Ser	Ala
435					440					445					
Leu	Gln	Glu	Leu	Glu	Ser	Ser	Thr	Ser	Asn	Ser	Pro	Ser	Asn	Lys	His
450					455					460					
Ile	His	Phe	Glu	Tyr	Asn	Met	Ser	Leu	Phe	Leu	Trp	Ser	Glu	Ser	Pro
465					470					475					
Asn	Asp	Leu	Pro	Ser	Asp	Ala	Ala	Trp	Val	Ser	Val	Ala	Asn	Arg	Gly
485					490					495					
Gln	Phe	Ala	Ser	Ser	Gly	Leu	Ser	Met	Lys	Ala	Gln	Ala	Ile	Ser	Pro
500					505					510					
Cys	Val	Gln	Asn	Phe	Cys	Ser	Ala	Leu	Asp	Ser	Lys	Leu	Lys	Val	Lys
515					520					525					
Leu	Asp	Asp	Leu	Leu	Ala	Tyr	Leu	Pro	Ser	Asp	Asp	Ser	Ser	Leu	Pro
530					535					540					
Lys	Asp	Val	Ser	Pro	Thr	Gln	Ala	Lys	Ser	Ser	Ala	Phe	Asp	Arg	Tyr
545					550					555					
Ala	Asp	Ala	Gly	Thr	Val	Gln	Glu	Met	Leu	Arg	Thr	Gln	Ser	Val	Ala
565					570					575					
Cys	Ile	Lys	His	Ile	Val	Asp	Cys	Ile	Arg	Ala	Glu	Leu	Gln	Ser	Ile
580					585					590					
Glu	Glu	Gly	Val	Gln	Gly	Gln	Gln	Asp	Ala	Leu	Asn	Ser	Ala	Lys	Leu
595					600					605					
His	Ser	Val	Leu	Phe	Met	Ala	Arg	Leu	Cys	Gln	Ser	Leu	Gly	Glu	Leu
610					615					620					
Cys	Pro	His	Leu	Lys	Gln	Cys	Ile	Leu	Gly	Lys	Ser	Glu	Ser	Ser	Glu
625					630					635					
Lys	Pro	Ala	Arg	Glu	Phe	Arg	Ala	Leu	Arg	Lys	Gln	Gly	Lys	Val	Lys



645						650						655					
Thr	Gln	Glu	Ile	Ile	Pro	Thr	Gln	Ala	Lys	Trp	Gln	Glu	Val	Lys	Glu		
			660					665					670				
Val	Leu	Leu	Gln	Gln	Ser	Val	Met	Gly	Tyr	Gln	Val	Trp	Ser	Ser	Ala		
		675					680					685					
Val	Val	Lys	Val	Leu	Ile	His	Gly	Phe	Thr	Gln	Ser	Leu	Leu	Leu	Asp		
	690						695					700					
Asp	Ala	Gly	Ser	Val	Leu	Ala	Thr	Ala	Thr	Ser	Trp	Asp	Glu	Leu	Glu		
705					710					715					720		
Ile	Gln	Glu	Glu	Ala	Glu	Ser	Gly	Ser	Ser	Val	Thr	Ser	Lys	Ile	Arg		
				725					730					735			
Leu	Pro	Ala	Gln	Pro	Ser	Trp	Tyr	Val	Gln	Ser	Phe	Leu	Phe	Ser	Leu		
			740					745					750				
Cys	Gln	Glu	Ile	Asn	Arg	Val	Gly	Gly	His	Ala	Leu	Pro	Lys	Val	Thr		
		755					760					765					
Leu	Gln	Glu	Met	Leu	Lys	Ser	Cys	Met	Val	Gln	Val	Val	Ala	Ala	Tyr		
	770						775					780					
Glu	Lys	Leu	Ser	Glu	Glu	Lys	Gln	Ile	Lys	Lys	Glu	Gly	Ala	Phe	Pro		
785					790					795					800		
Val	Thr	Gln	Asn	Arg	Ala	Leu	Gln	Leu	Leu	Tyr	Asp	Leu	Arg	Tyr	Leu		
			805						810					815			
Asn	Ile	Val	Leu	Thr	Ala	Lys	Gly	Asp	Glu	Val	Lys	Ser	Gly	Arg	Ser		
			820					825					830				
Lys	Pro	Asp	Ser	Arg	Ile	Glu	Lys	Val	Thr	Asp	His	Leu	Glu	Ala	Leu		
		835					840					845					
Ile	Asp	Pro	Phe	Asp	Leu	Asp	Val	Phe	Thr	Pro	His	Leu	Asn	Ser	Asn		
	850						855					860					
Leu	His	Arg	Leu	Val	Gln	Arg	Thr	Ser	Val	Leu	Phe	Gly	Leu	Val	Thr		
865					870					875					880		
Gly	Thr	Glu	Asn	Gln	Leu	Ala	Pro	Arg	Ser	Ser	Thr	Phe	Asn	Ser	Gln		
			885						890					895			
Glu	Pro	His	Asn	Ile	Leu	Pro	Leu	Ala	Ser	Ser	Gln	Ile	Arg	Phe	Gly		
			900					905					910				
Leu	Leu	Pro	Leu	Ser	Met	Thr	Ser	Thr	Arg	Lys	Ala	Lys	Ser	Thr	Arg		
		915					920						925				
Asn	Ile	Glu	Thr	Lys	Ala	Gln	Val	Gly	Ala	Lys	Ser	Lys	Arg	Leu	Ile		
	930						935					940					
Arg	Gly	Trp	Val	Pro	Thr	Ser	His	Arg	Ala	Thr	His	Asp	Gln	Leu	Pro		

945

950

955

960

Phe Lys

&lt;210&gt; 160

&lt;211&gt; 438

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 160

Leu Pro Lys Asp Val Ser Pro Thr Gln Ala Lys Ser Ser Ala Phe Asp  
 1 5 10 15

Arg Tyr Ala Asp Ala Gly Thr Val Gln Glu Met Leu Arg Thr Gln Ser  
 20 25 30

Val Ala Cys Ile Lys His Ile Val Asp Cys Ile Arg Ala Glu Leu Gln  
 35 40 45

Ser Ile Glu Glu Gly Val Gln Gly Gln Gln Asp Ala Leu Asn Ser Ala  
 50 55 60

Lys Leu His Ser Val Leu Phe Met Ala Arg Leu Cys Gln Ser Leu Gly  
 65 70 75 80

Glu Leu Cys Pro His Leu Lys Gln Cys Ile Leu Gly Lys Ser Glu Ser  
 85 90 95

Ser Glu Lys Pro Ala Arg Glu Phe Arg Ala Leu Arg Lys Gln Gly Lys  
 100 105 110

Val Lys Thr Gln Glu Ile Ile Pro Thr Gln Ala Lys Trp Gln Glu Val  
 115 120 125

Lys Glu Val Leu Leu Gln Gln Ser Val Met Gly Tyr Gln Val Trp Ser  
 130 135 140

Ser Ala Val Val Lys Val Leu Ile His Gly Phe Thr Gln Ser Leu Leu  
 145 150 155 160

Leu Asp Asp Ala Gly Ser Val Leu Ala Thr Ala Thr Ser Trp Asp Glu  
 165 170 175

Leu Glu Ile Gln Glu Glu Ala Glu Ser Gly Ser Ser Val Thr Ser Lys  
 180 185 190

Ile Arg Leu Pro Ala Gln Pro Ser Trp Tyr Val Gln Ser Phe Leu Phe  
 195 200 205

Ser Leu Cys Gln Glu Ile Asn Arg Val Gly Gly His Ala Leu Pro Lys  
 210 215 220

Val Thr Leu Gln Glu Met Leu Lys Ser Cys Met Val Gln Val Val Ala  
 225 230 235 240

Ala Tyr Glu Lys Leu Ser Glu Glu Lys Gln Ile Lys Lys Glu Gly Ala  
                             245                            250                            255  
 Phe Pro Val Thr Gln Asn Arg Ala Leu Gln Leu Leu Tyr Asp Leu Arg  
                             260                            265                            270  
 Tyr Leu Asn Ile Val Leu Thr Ala Lys Gly Asp Glu Val Lys Ser Gly  
                             275                            280                            285  
 Arg Ser Lys Pro Asp Ser Arg Ile Glu Lys Val Thr Asp His Leu Glu  
                             290                            295                            300  
 Ala Leu Ile Asp Pro Phe Asp Leu Asp Val Phe Thr Pro His Leu Asn  
 305                            310                            315                            320  
 Ser Asn Leu His Arg Leu Val Gln Arg Thr Ser Val Leu Phe Gly Leu  
                             325                            330                            335  
 Val Thr Gly Thr Glu Asn Gln Leu Ala Pro Arg Ser Ser Thr Phe Asn  
                             340                            345                            350  
 Ser Gln Glu Pro His Asn Ile Leu Pro Leu Ala Ser Ser Gln Ile Arg  
                             355                            360                            365  
 Phe Gly Leu Leu Pro Leu Ser Met Thr Ser Thr Arg Lys Ala Lys Ser  
                             370                            375                            380  
 Thr Arg Asn Ile Glu Thr Lys Ala Gln Val Val Pro Pro Ala Arg Ser  
 385                            390                            395                            400  
 Thr Ala Gly Asp Pro Thr Val Pro Gly Ser Leu Phe Arg Gln Leu Val  
                             405                            410                            415  
 Ser Glu Glu Asp Asn Thr Ser Ala Pro Ser Leu Phe Lys Leu Gly Trp  
                             420                            425                            430  
 Leu Ser Ser Met Thr Lys  
                             435

<210> 161  
 <211> 1068  
 <212> PRT  
 <213> Arabidopsis thaliana

<400> 161  
 Met Arg Met Ser Ser Ala Ser Ala Gly Glu Tyr Arg Pro Ser Ala Val  
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 Ser Leu Ser Ser Asn Gly Gly Gly Gln Arg Asp Ala Glu Ser Leu Phe  
                             20                            25                            30  
 Arg Thr Lys Pro Met Ser Glu Ile Arg Ile Val Glu Ser Ala Thr Arg  
                             35                            40                            45  
 Lys Asn Ile Glu Asp Lys Lys Glu Glu Leu Arg Gln Leu Val Gly Thr  
   50                            55                            60

Arg Tyr Arg Asp Leu Ile Asp Ser Ala Asp Ser Ile Val His Met Lys  
 65 70 75 80  
 Ser Leu Cys Glu Ser Ile Ser Ala Asn Ile Ser Ser Ile His Gly Asn  
 85 90 95  
 Ile Arg Ser Leu Ser Ser Ser Ser Val Ala Glu Thr Pro Lys Leu Ala  
 100 105 110  
 Ser Leu Asn Pro Val Arg Val Asn Val Tyr Gly Ile Ala Cys Arg Val  
 115 120 125  
 Lys Tyr Leu Val Asp Thr Pro Glu Asn Ile Trp Gly Cys Leu Asp Glu  
 130 135 140  
 Ser Met Phe Leu Glu Ala Ala Gly Arg Tyr Met Arg Ala Gln His Val  
 145 150 155 160  
 Gln Gln Arg Leu Ile Lys Leu Glu Gly Cys Gly Gly Gly Val Ala Glu  
 165 170 175  
 Val Asp Gln Ser Lys Leu Leu Ala Asn Phe Pro Leu Leu Glu His Gln  
 180 185 190  
 Trp Gln Ile Val Glu Ser Phe Lys Ala Gln Ile Ser Gln Arg Ser His  
 195 200 205  
 Glu Arg Leu Leu Asp Pro Gly Leu Gly Leu Gly Ala Tyr Val Asp Ala  
 210 215 220  
 Leu Thr Ala Val Ala Val Val Asp Glu Leu Asp Pro Glu Gln Val Leu  
 225 230 235 240  
 Glu Leu Phe Leu Asp Ser Arg Lys Thr Trp Ile Leu Gln Lys Leu Asn  
 245 250 255  
 Ala Cys Thr Gly Glu Asp Ala Gly Glu Val Val Leu Val Phe Cys Asp  
 260 265 270  
 Val Leu Ser Val Ile Gln Val Thr Val Gly Gln Val Gly Glu Leu Phe  
 275 280 285  
 Leu Gln Ala Leu Thr Asp Met Pro Leu Phe Tyr Lys Thr Ile Leu Ser  
 290 295 300  
 Thr Pro Pro Ala Ser Gln Leu Phe Gly Gly Ile Pro Asn Pro Glu Glu  
 305 310 315 320  
 Glu Val Glu Leu Trp Lys Ser Phe Arg Asp Lys Leu Glu Ser Val Met  
 325 330 335  
 Leu Ile Leu Asp Lys Asn Asp Val Ser Lys Ser Cys Leu Thr Trp Leu  
 340 345 350  
 Arg Glu Cys Gly Gly Gln Ile Val Gly Lys Val Ser Gly Lys His Leu  
 355 360 365

Ile	Glu	Ala	Ile	Val	Thr	Gly	Ala	Glu	Leu	Gly	Ser	Ala	Glu	Lys	Leu	370	375	380	
Ile	Arg	Glu	Thr	Met	Asp	Ser	Lys	Asp	Val	Leu	Arg	Gly	Ser	Leu	Asp	385	390	395	400
Trp	Leu	Lys	Ser	Val	Phe	Gly	Ser	Glu	Val	Glu	Leu	Pro	Trp	Asn	Arg	405	410	415	
Ile	Arg	Glu	Leu	Val	Leu	Gly	Asp	Asp	Leu	Asn	Leu	Trp	Asp	Glu	Ile	420	425	430	
Phe	Glu	Lys	Ala	Phe	Val	Glu	Arg	Met	Lys	Ser	Ile	Ile	Asp	Ser	Lys	435	440	445	
Phe	Glu	Asn	Leu	Thr	Lys	Ala	Val	Asn	Val	Ala	Asp	Ser	Val	His	Ala	450	455	460	
Tyr	Ser	Glu	Ile	Thr	Gly	Glu	Lys	Ile	Asn	Phe	Gln	Ala	Tyr	Leu	Asn	465	470	475	480
Arg	Pro	Ser	Thr	Gly	Gly	Gly	Val	Trp	Phe	Ile	Glu	Pro	Asn	Ser	Lys	485	490	495	
Lys	Val	Gly	Leu	Ile	Ser	Gly	Asn	Lys	Ser	Ser	Pro	Glu	Glu	Ser	Asp	500	505	510	
Phe	Gln	Ser	Cys	Leu	Thr	Ala	Tyr	Phe	Gly	Pro	Glu	Val	Ser	Gln	Met	515	520	525	
Arg	Asp	Ala	Val	Asp	Arg	Arg	Cys	His	Ser	Val	Leu	Glu	Asp	Leu	Leu	530	535	540	
Ser	Phe	Phe	Glu	Ser	Glu	Lys	Ala	Gly	Pro	Arg	Leu	Lys	Asp	Leu	Ala	545	550	555	560
Pro	Tyr	Val	Gln	Asn	Lys	Cys	Tyr	Asp	Ser	Val	Ser	Ala	Leu	Leu	Ala	565	570	575	
Asp	Val	Asp	Lys	Glu	Leu	Glu	Phe	Leu	Cys	Ala	Ala	Val	Lys	Lys	Glu	580	585	590	
Asn	Lys	Asp	Ser	Glu	Ala	Ile	Pro	Pro	Ala	Ile	Ile	Ile	Glu	Lys	Ser	595	600	605	
Leu	Phe	Met	Gly	Arg	Leu	Leu	Phe	Ala	Leu	Leu	Asn	His	Ser	Lys	His	610	615	620	
Val	Pro	Leu	Ile	Leu	Gly	Ser	Pro	Arg	Leu	Trp	Cys	Arg	Glu	Thr	Met	625	630	635	640
Thr	Ala	Val	Ser	Asp	Lys	Leu	Ser	Ser	Leu	Leu	Arg	Gln	Pro	Arg	Phe	645	650	655	
Ser	Ser	Asn	Thr	Pro	Ala	Thr	Ala	Asp	Ser	Pro	Gly	Lys	Gln	Leu	His	660	665	670	

Thr	Asp	Leu	Arg	Lys	Gln	Thr	Ser	Leu	Ala	Val	Ala	Ala	Leu	Leu	Gly	675	680	685
Ala	Glu	Glu	Lys	Thr	Ser	Pro	Lys	Phe	Glu	Glu	Leu	Asn	Arg	Thr	Met	690	695	700
Arg	Asp	Leu	Cys	Ile	Lys	Ala	His	Thr	Leu	Trp	Ile	Lys	Trp	Leu	Ser	705	710	715
Asp	Glu	Leu	Ser	Ala	Ile	Leu	Leu	Arg	Asp	Leu	Arg	Ser	Asp	Asp	Gly	725	730	735
Leu	Ser	Ala	Thr	Thr	Pro	Leu	Arg	Gly	Trp	Glu	Glu	Thr	Ile	Val	Lys	740	745	750
Gln	Glu	Gln	Asp	Glu	Ser	Gln	Ser	Glu	Leu	Lys	Ile	Ser	Leu	Pro	Ser	755	760	765
Leu	Pro	Ser	Leu	Tyr	Met	Ile	Ser	Phe	Leu	Cys	Arg	Ala	Ser	Glu	Glu	770	775	780
Ile	His	Arg	Ile	Gly	Gly	His	Val	Leu	Asp	Arg	Ser	Ile	Leu	Gln	Lys	785	790	795
Phe	Ala	Ser	Ser	Leu	Leu	Glu	Lys	Ile	Thr	Ile	Ile	Tyr	Glu	Asp	Phe	805	810	815
Leu	Ser	Ala	Arg	Glu	Ala	Ser	Glu	Pro	Gln	Ile	Ser	Glu	Lys	Gly	Val	820	825	830
Leu	Gln	Ile	Leu	Leu	Asp	Leu	Arg	Phe	Ala	Ala	Asp	Val	Leu	Ser	Gly	835	840	845
Gly	Asp	Thr	Ser	Thr	Asn	Val	Glu	Thr	Pro	Lys	Ser	Thr	Ile	Asn	Arg	850	855	860
Ser	Ala	Tyr	Arg	Arg	Arg	Gln	Asp	Gln	Gln	Lys	Thr	Lys	Leu	Val	Asn	865	870	875
Arg	Gly	Arg	Ile	Asp	Gly	Val	Thr	Ser	Gln	Leu	Thr	Gln	Lys	Leu	Asp	885	890	895
Pro	Ile	Asp	Trp	Leu	Thr	Tyr	Glu	Pro	Tyr	Leu	Trp	Glu	Asn	Glu	Lys	900	905	910
Gln	Ser	Tyr	Leu	Arg	His	Ala	Val	Leu	Phe	Gly	Phe	Phe	Val	Gln	Leu	915	920	925
Asn	Arg	Met	Tyr	Thr	Asp	Thr	Ala	Gln	Lys	Leu	Ser	Ile	Asn	Ile	Glu	930	935	940
Ser	Asn	Ile	Met	Pro	Cys	Ser	Thr	Val	Pro	Arg	Phe	Lys	Tyr	Leu	Pro	945	950	955
Ile	Ser	Ala	Pro	Ala	Leu	Ser	Ser	Arg	Ser	Thr	Asn	Lys	Val	Ser	Ile	965	970	975

Pro Val Thr Ser Asn Asp Ala Ser Ala Arg Asn Ser Trp Lys Ala Phe  
 980 985 990  
 Thr Asn Gly Glu Gln Ser Gln Thr Ser Asp Leu Glu Glu Asn Ser Asn  
 995 1000 1005  
 Phe Gly Val Ala Phe Lys Ser Phe Met Gln Glu Ser Thr Leu Lys Leu  
 1010 1015 1020  
 Gly Ser Ile Leu Thr Asp Gly Gln Val Gly Ile Phe Lys Asp Arg Ser  
 1025 1030 1035 1040  
 Ala Ala Ala Met Ser Thr Phe Gly Asp Ile Leu Pro Ala Gln Ala Ala  
 1045 1050 1055  
 Gly Leu Leu Ser Ser Phe Thr Asn Thr Arg Ser Glu  
 1060 1065

<210> 162  
 <211> 557  
 <212> PRT  
 <213> Homo sapiens

<400> 162  
 Met Ala Tyr Ser Glu Glu His Lys Gly Met Pro Cys Gly Phe Ile Arg  
 1 5 10 15  
 Gln Asn Ser Gly Asn Ser Ile Ser Leu Asp Phe Glu Pro Ser Ile Glu  
 20 25 30  
 Tyr Gln Phe Val Glu Arg Leu Glu Glu Arg Tyr Lys Cys Ala Phe Cys  
 35 40 45  
 His Ser Val Leu His Asn Pro His Gln Thr Gly Cys Gly His Arg Phe  
 50 55 60  
 Cys Gln His Cys Ile Leu Ser Leu Arg Glu Leu Asn Thr Val Pro Ile  
 65 70 75 80  
 Cys Pro Val Asp Lys Glu Val Ile Lys Ser Gln Glu Val Phe Lys Asp  
 85 90 95  
 Asn Cys Cys Lys Arg Glu Val Leu Asn Leu Tyr Val Tyr Cys Ser Asn  
 100 105 110  
 Ala Pro Gly Cys Asn Ala Lys Val Ile Leu Gly Arg Tyr Gln Asp His  
 115 120 125  
 Leu Gln Gln Cys Leu Phe Gln Pro Val Gln Cys Ser Asn Glu Lys Cys  
 130 135 140  
 Arg Glu Pro Val Leu Arg Lys Asp Leu Lys Glu His Leu Ser Ala Ser  
 145 150 155 160  
 Cys Gln Phe Arg Lys Glu Lys Cys Leu Tyr Cys Lys Lys Asp Val Val

165										170					175				
Val	Ile	Asn	Leu	Gln	Asn	His	Glu	Glu	Asn	Leu	Cys	Pro	Glu	Tyr	Pro				
			180					185					190						
Val	Phe	Cys	Pro	Asn	Asn	Cys	Ala	Lys	Ile	Ile	Leu	Lys	Thr	Glu	Val				
		195					200					205							
Asp	Glu	His	Leu	Ala	Val	Cys	Pro	Glu	Ala	Glu	Gln	Asp	Cys	Pro	Phe				
	210					215					220								
Lys	His	Tyr	Gly	Cys	Ala	Val	Thr	Asp	Lys	Arg	Arg	Asn	Leu	Gln	Gln				
225					230					235					240				
His	Glu	His	Ser	Ala	Leu	Arg	Glu	His	Met	Arg	Leu	Val	Leu	Glu	Lys				
				245					250					255					
Asn	Val	Gln	Leu	Glu	Glu	Gln	Ile	Ser	Asp	Leu	His	Lys	Ser	Leu	Glu				
			260					265					270						
Gln	Lys	Glu	Ser	Lys	Ile	Gln	Gln	Leu	Ala	Glu	Thr	Ile	Lys	Lys	Leu				
		275					280					285							
Glu	Lys	Glu	Phe	Lys	Gln	Phe	Ala	Gln	Leu	Phe	Gly	Lys	Asn	Gly	Ser				
	290					295					300								
Phe	Leu	Pro	Asn	Ile	Gln	Val	Phe	Ala	Ser	His	Ile	Asp	Lys	Ser	Ala				
305					310					315					320				
Trp	Leu	Glu	Ala	Gln	Val	His	Gln	Leu	Leu	Gln	Met	Val	Asn	Gln	Gln				
				325					330					335					
Gln	Asn	Lys	Phe	Asp	Leu	Arg	Pro	Leu	Met	Glu	Ala	Val	Asp	Thr	Val				
			340					345					350						
Lys	Gln	Lys	Ile	Thr	Leu	Leu	Glu	Asn	Asn	Asp	Gln	Arg	Leu	Ala	Val				
		355					360					365							
Leu	Glu	Glu	Glu	Thr	Asn	Lys	His	Asp	Thr	His	Ile	Asn	Ile	His	Lys				
	370					375					380								
Ala	Gln	Leu	Ser	Lys	Asn	Glu	Glu	Arg	Phe	Lys	Leu	Leu	Glu	Gly	Thr				
385					390					395					400				
Cys	Tyr	Asn	Gly	Lys	Leu	Ile	Trp	Lys	Val	Thr	Asp	Tyr	Lys	Met	Lys				
				405					410					415					
Lys	Arg	Glu	Ala	Val	Asp	Gly	His	Thr	Val	Ser	Ile	Phe	Ser	Gln	Ser				
			420					425					430						
Phe	Tyr	Thr	Ser	Arg	Cys	Gly	Tyr	Arg	Leu	Cys	Ala	Arg	Ala	Tyr	Leu				
		435					440					445							
Asn	Gly	Asp	Gly	Ser	Gly	Arg	Gly	Ser	His	Leu	Ser	Leu	Tyr	Phe	Val				
	450					455					460								
Val	Met	Arg	Gly	Glu	Phe	Asp	Ser	Leu	Leu	Gln	Trp	Pro	Phe	Arg	Gln				



465                      470                      475                      480  
 Arg Val Thr Leu Met Leu Leu Asp Gln Ser Gly Lys Lys Asn Ile Met  
                                  485                      490                      495  
 Glu Thr Phe Lys Pro Asp Pro Asn Ser Ser Ser Phe Lys Arg Pro Asp  
                                  500                      505                      510  
 Gly Glu Met Asn Ile Ala Ser Gly Cys Pro Arg Phe Val Ala His Ser  
                                  515                      520                      525  
 Val Leu Glu Asn Ala Lys Asn Ala Tyr Ile Lys Asp Asp Thr Leu Phe  
                                  530                      535                      540  
 Leu Lys Val Ala Val Asp Leu Thr Asp Leu Glu Asp Leu  
 545                                   550                      555  
  
 <210> 163  
 <211> 538  
 <212> PRT  
 <213> Homo sapiens  
  
 <400> 163  
 Gly Asn Ser Ile Ser Leu Asp Phe Glu Pro Ser Ile Glu Tyr Gln Phe  
   1                                    5                                    10                                    15  
 Val Glu Arg Leu Glu Glu Arg Tyr Lys Cys Ala Phe Cys His Ser Val  
                                  20                                    25                                    30  
 Leu His Asn Pro His Gln Thr Gly Cys Gly His Arg Phe Cys Gln His  
                                  35                                    40                                    45  
 Cys Ile Leu Ser Leu Arg Glu Leu Asn Thr Val Pro Ile Cys Pro Val  
                                  50                                    55                                    60  
 Asp Lys Glu Val Ile Lys Ser Gln Glu Val Phe Lys Asp Asn Cys Cys  
   65                                    70                                    75                                    80  
 Lys Arg Glu Val Leu Asn Leu Tyr Val Tyr Cys Ser Asn Ala Pro Gly  
                                  85                                    90                                    95  
 Cys Asn Ala Lys Val Ile Leu Gly Arg Tyr Gln Asp His Leu Gln Gln  
                                  100                                    105                                    110  
 Cys Leu Phe Gln Pro Val Gln Cys Ser Asn Glu Lys Cys Arg Glu Pro  
                                  115                                    120                                    125  
 Val Leu Arg Lys Asp Leu Lys Glu His Leu Ser Ala Ser Cys Gln Phe  
                                  130                                    135                                    140  
 Arg Lys Glu Lys Cys Leu Tyr Cys Lys Lys Asp Val Val Val Ile Asn  
 145                                    150                                    155                                    160  
 Leu Gln Asn His Glu Glu Asn Leu Cys Pro Glu Tyr Pro Val Phe Cys  
                                  165                                    170                                    175

Pro	Asn	Asn	Cys	Ala	Lys	Ile	Ile	Leu	Lys	Thr	Glu	Val	Asp	Glu	His	180	185	190
Leu	Ala	Val	Cys	Pro	Glu	Ala	Glu	Gln	Asp	Cys	Pro	Phe	Lys	His	Tyr	195	200	205
Gly	Cys	Ala	Val	Thr	Asp	Lys	Arg	Arg	Asn	Leu	Gln	Gln	His	Glu	His	210	215	220
Ser	Ala	Leu	Arg	Glu	His	Met	Arg	Leu	Val	Leu	Glu	Lys	Asn	Val	Gln	225	230	235
Leu	Glu	Glu	Gln	Ile	Ser	Asp	Leu	His	Lys	Ser	Leu	Glu	Gln	Lys	Glu	245	250	255
Ser	Lys	Ile	Gln	Gln	Leu	Ala	Glu	Thr	Ile	Lys	Lys	Leu	Glu	Lys	Glu	260	265	270
Phe	Lys	Gln	Phe	Ala	Gln	Leu	Phe	Gly	Lys	Asn	Gly	Ser	Phe	Leu	Pro	275	280	285
Asn	Ile	Gln	Val	Phe	Ala	Ser	His	Ile	Asp	Lys	Ser	Ala	Trp	Leu	Glu	290	295	300
Ala	Gln	Val	His	Gln	Leu	Leu	Gln	Met	Val	Asn	Gln	Gln	Gln	Asn	Lys	305	310	315
Phe	Asp	Leu	Arg	Pro	Leu	Met	Glu	Ala	Val	Asp	Thr	Val	Lys	Gln	Lys	325	330	335
Ile	Thr	Leu	Leu	Glu	Asn	Asn	Asp	Gln	Arg	Leu	Ala	Val	Leu	Glu	Glu	340	345	350
Glu	Thr	Asn	Lys	His	Asp	Thr	His	Ile	Asn	Ile	His	Lys	Ala	Gln	Leu	355	360	365
Ser	Lys	Asn	Glu	Glu	Arg	Phe	Lys	Leu	Leu	Glu	Gly	Thr	Cys	Tyr	Asn	370	375	380
Gly	Lys	Leu	Ile	Trp	Lys	Val	Thr	Asp	Tyr	Lys	Met	Lys	Lys	Arg	Glu	385	390	395
Ala	Val	Asp	Gly	His	Thr	Val	Ser	Ile	Phe	Ser	Gln	Ser	Phe	Tyr	Thr	405	410	415
Ser	Arg	Cys	Gly	Tyr	Arg	Leu	Cys	Ala	Arg	Ala	Tyr	Leu	Asn	Gly	Asp	420	425	430
Gly	Ser	Gly	Arg	Gly	Ser	His	Leu	Ser	Leu	Tyr	Phe	Val	Val	Met	Arg	435	440	445
Gly	Glu	Phe	Asp	Ser	Leu	Leu	Gln	Trp	Pro	Phe	Arg	Gln	Arg	Val	Thr	450	455	460
Leu	Met	Leu	Leu	Asp	Gln	Ser	Gly	Lys	Lys	Asn	Ile	Met	Glu	Thr	Phe	465	470	475

Lys Pro Asp Pro Asn Ser Ser Ser Phe Lys Arg Pro Asp Gly Glu Met  
 485 490 495  
 Asn Ile Ala Ser Gly Cys Pro Arg Phe Val Ala His Ser Val Leu Glu  
 500 505 510  
 Asn Ala Lys Asn Ala Tyr Ile Lys Asp Asp Thr Leu Phe Leu Lys Val  
 515 520 525  
 Ala Val Asp Leu Thr Asp Leu Glu Asp Leu  
 530 535

<210> 164  
 <211> 558  
 <212> PRT  
 <213> Mus musculus

<400> 164  
 Met Ala His Ser Glu Glu Gln Ala Ala Val Pro Cys Ala Phe Ile Arg  
 1 5 10 15  
 Gln Asn Ser Gly Asn Ser Ile Ser Leu Asp Phe Glu Pro Asp Thr Glu  
 20 25 30  
 Tyr Gln Phe Val Glu Gln Leu Glu Glu Arg Tyr Lys Cys Ala Phe Cys  
 35 40 45  
 His Ser Val Leu His Asn Pro His Gln Thr Gly Cys Gly His Arg Phe  
 50 55 60  
 Cys Gln Gln Cys Ile Arg Ser Leu Arg Glu Leu Asn Ser Val Pro Ile  
 65 70 75 80  
 Cys Pro Val Asp Lys Glu Val Ile Lys Pro Gln Glu Val Phe Lys Asp  
 85 90 95  
 Asn Cys Cys Lys Arg Glu Val Leu Asn Leu His Val Tyr Cys Lys Asn  
 100 105 110  
 Ala Pro Gly Cys Asn Ala Arg Ile Ile Leu Gly Arg Phe Gln Asp His  
 115 120 125  
 Leu Gln His Cys Ser Phe Gln Ala Val Pro Cys Pro Asn Glu Ser Cys  
 130 135 140  
 Arg Glu Ala Met Leu Arg Lys Asp Val Lys Glu His Leu Ser Ala Tyr  
 145 150 155 160  
 Cys Arg Phe Arg Glu Glu Lys Cys Leu Tyr Cys Lys Arg Asp Ile Val  
 165 170 175  
 Val Thr Asn Leu Gln Asp His Glu Glu Asn Ser Cys Pro Ala Tyr Pro  
 180 185 190  
 Val Ser Cys Pro Asn Arg Cys Val Gln Thr Ile Pro Arg Ala Arg Val  
 195 200 205

Asn	Glu	His	Leu	Thr	Val	Cys	Pro	Glu	Ala	Glu	Gln	Asp	Cys	Pro	Phe	210	215	220
Lys	His	Tyr	Gly	Cys	Thr	Val	Lys	Gly	Lys	Arg	Gly	Asn	Leu	Leu	Glu	225	230	235
His	Glu	Arg	Ala	Ala	Leu	Gln	Asp	His	Met	Leu	Leu	Val	Leu	Glu	Lys	245	250	255
Asn	Tyr	Gln	Leu	Glu	Gln	Arg	Ile	Ser	Asp	Leu	Tyr	Gln	Ser	Leu	Glu	260	265	270
Gln	Lys	Glu	Ser	Lys	Ile	Gln	Gln	Leu	Ala	Glu	Thr	Val	Lys	Lys	Phe	275	280	285
Glu	Lys	Glu	Leu	Lys	Gln	Phe	Thr	Gln	Met	Phe	Gly	Arg	Asn	Gly	Thr	290	295	300
Phe	Leu	Ser	Asn	Val	Gln	Ala	Leu	Thr	Ser	His	Thr	Asp	Lys	Ser	Ala	305	310	315
Trp	Leu	Glu	Ala	Gln	Val	Arg	Gln	Leu	Leu	Gln	Ile	Val	Asn	Gln	Gln	325	330	335
Pro	Ser	Arg	Leu	Asp	Leu	Arg	Ser	Leu	Val	Asp	Ala	Val	Asp	Ser	Val	340	345	350
Lys	Gln	Arg	Ile	Thr	Gln	Leu	Glu	Ala	Ser	Asp	Gln	Arg	Leu	Val	Leu	355	360	365
Leu	Glu	Gly	Glu	Thr	Ser	Lys	His	Asp	Ala	His	Ile	Asn	Ile	His	Lys	370	375	380
Ala	Gln	Leu	Asn	Lys	Asn	Glu	Glu	Arg	Phe	Lys	Gln	Leu	Glu	Gly	Ala	385	390	395
Cys	Tyr	Ser	Gly	Lys	Leu	Ile	Trp	Lys	Val	Thr	Asp	Tyr	Arg	Val	Lys	405	410	415
Lys	Arg	Glu	Ala	Val	Glu	Gly	His	Thr	Val	Ser	Val	Phe	Ser	Gln	Pro	420	425	430
Phe	Tyr	Thr	Ser	Arg	Cys	Gly	Tyr	Arg	Leu	Cys	Ala	Arg	Ala	Tyr	Leu	435	440	445
Asn	Gly	Asp	Gly	Ser	Gly	Lys	Gly	Thr	His	Leu	Ser	Leu	Tyr	Phe	Val	450	455	460
Val	Met	Arg	Gly	Glu	Phe	Asp	Ser	Leu	Leu	Gln	Trp	Pro	Phe	Arg	Gln	465	470	475
Arg	Val	Thr	Leu	Met	Leu	Leu	Asp	Gln	Ser	Gly	Lys	Lys	Asn	His	Ile	485	490	495
Val	Glu	Thr	Phe	Lys	Ala	Asp	Pro	Asn	Ser	Ser	Ser	Phe	Lys	Arg	Pro	500	505	510

Asp Gly Glu Met Asn Ile Ala Ser Gly Cys Pro Arg Phe Val Ser His  
515 520 525

Ser Thr Leu Glu Asn Ser Lys Asn Thr Tyr Ile Lys Asp Asp Thr Leu  
530 535 540

Phe Leu Lys Val Ala Val Asp Leu Thr Asp Leu Glu Asp Leu  
545 550 555

<210> 165

<211> 558

<212> PRT

<213> Mus musculus

<400> 165

Met Ala His Ser Glu Glu Gln Ala Ala Val Pro Cys Ala Phe Ile Arg  
1 5 10 15

Gln Asn Ser Gly Asn Ser Ile Ser Leu Asp Phe Glu Pro Asp Thr Glu  
20 25 30

Tyr Gln Phe Val Glu Gln Leu Glu Glu Arg Tyr Lys Cys Ala Phe Cys  
35 40 45

His Ser Val Leu His Asn Pro His Gln Thr Gly Cys Gly His Arg Phe  
50 55 60

Cys Gln Gln Cys Ile Arg Ser Leu Arg Glu Leu Asn Ser Val Pro Ile  
65 70 75 80

Cys Pro Val Asp Lys Glu Val Ile Lys Pro Gln Glu Val Phe Lys Asp  
85 90 95

Asn Cys Cys Lys Arg Glu Val Leu Asn Leu His Val Tyr Cys Lys Asn  
100 105 110

Ala Pro Gly Cys Asn Ala Arg Ile Ile Leu Gly Arg Phe Gln Asp His  
115 120 125

Leu Gln His Cys Ser Phe Gln Ala Val Pro Cys Pro Asn Glu Ser Cys  
130 135 140

Arg Glu Ala Met Leu Arg Lys Asp Val Lys Glu His Leu Ser Ala Tyr  
145 150 155 160

Cys Arg Phe Arg Glu Glu Lys Cys Leu Tyr Cys Lys Arg Asp Ile Val  
165 170 175

Val Thr Asn Leu Gln Asp His Glu Glu Asn Ser Cys Pro Ala Tyr Pro  
180 185 190

Val Ser Cys Pro Asn Arg Cys Val Gln Thr Ile Pro Arg Ala Arg Val  
195 200 205

Asn Glu His Leu Thr Val Cys Pro Glu Ala Glu Gln Asp Cys Pro Phe

210	215	220
Lys His Tyr Gly Cys Thr Val Lys Gly Lys Arg Gly Asn Leu Leu Glu 225 230 235 240		
His Glu Arg Ala Ala Leu Gln Asp His Met Leu Leu Val Leu Glu Lys 245 250 255		
Asn Tyr Gln Leu Glu Gln Arg Ile Ser Asp Leu Tyr Gln Ser Leu Glu 260 265 270		
Gln Lys Glu Ser Lys Ile Gln Gln Leu Ala Glu Thr Val Lys Lys Phe 275 280 285		
Glu Lys Glu Leu Lys Gln Phe Thr Gln Met Phe Gly Arg Asn Gly Thr 290 295 300		
Phe Leu Ser Asn Val Gln Ala Leu Thr Ser His Thr Asp Lys Ser Ala 305 310 315 320		
Trp Leu Glu Ala Gln Val Arg His Leu Leu Gln Ile Val Asn Gln Gln 325 330 335		
Pro Ser Arg Leu Asp Leu Arg Ser Leu Val Asp Ala Val Asp Ser Val 340 345 350		
Lys Gln Arg Ile Thr Gln Leu Glu Ala Ser Asp Gln Arg Leu Val Leu 355 360 365		
Leu Glu Gly Glu Thr Ser Lys His Asp Ala His Ile Asn Ile His Lys 370 375 380		
Ala Gln Leu Asn Lys Asn Glu Glu Arg Phe Lys Gln Leu Glu Gly Ala 385 390 395 400		
Cys Tyr Ser Gly Lys Leu Ile Trp Lys Val Thr Asp Tyr Arg Val Lys 405 410 415		
Lys Arg Glu Ala Val Glu Gly His Thr Val Ser Val Phe Ser Gln Pro 420 425 430		
Phe Tyr Thr Ser Arg Cys Gly Tyr Arg Leu Cys Ala Arg Ala Tyr Leu 435 440 445		
Asn Gly Asp Gly Ser Gly Lys Gly Thr His Leu Ser Leu Tyr Phe Val 450 455 460		
Val Met Arg Gly Glu Phe Asp Ser Leu Leu Gln Trp Pro Phe Arg Gln 465 470 475 480		
Arg Val Thr Leu Met Leu Leu Asp Gln Ser Gly Lys Lys Asn His Ile 485 490 495		
Val Glu Thr Phe Lys Ala Asp Pro Asn Ser Ser Ser Phe Lys Arg Pro 500 505 510		
Asp Gly Glu Met Asn Ile Ala Ser Gly Cys Pro Arg Phe Val Ser His		

515                      520                      525  
 Ser Thr Leu Glu Asn Ser Lys Asn Thr Tyr Ile Lys Asp Asp Thr Leu  
 530                      535                      540  
 Phe Leu Lys Val Ala Val Asp Leu Thr Asp Leu Glu Asp Leu  
 545                      550                      555  
  
 <210> 166  
 <211> 568  
 <212> PRT  
 <213> Homo sapiens  
  
 <400> 166  
 Met Glu Ser Ser Lys Lys Met Asp Ser Pro Gly Ala Leu Gln Thr Asn  
 1                      5                      10                      15  
 Pro Pro Leu Lys Leu His Thr Asp Arg Ser Ala Gly Thr Pro Val Phe  
 20                      25                      30  
 Val Pro Glu Gln Gly Gly Tyr Lys Glu Lys Phe Val Lys Thr Val Glu  
 35                      40                      45  
 Asp Lys Tyr Lys Cys Glu Lys Cys His Leu Val Leu Cys Ser Pro Lys  
 50                      55                      60  
 Gln Thr Glu Cys Gly His Arg Phe Cys Glu Ser Cys Met Ala Ala Leu  
 65                      70                      75                      80  
 Leu Ser Ser Ser Ser Pro Lys Cys Thr Ala Cys Gln Glu Ser Ile Val  
 85                      90                      95  
 Lys Asp Lys Val Phe Lys Asp Asn Cys Cys Lys Arg Glu Ile Leu Ala  
 100                      105                      110  
 Leu Gln Ile Tyr Cys Arg Asn Glu Ser Arg Gly Cys Ala Glu Gln Leu  
 115                      120                      125  
 Met Leu Gly His Leu Leu Val His Leu Lys Asn Asp Cys His Phe Glu  
 130                      135                      140  
 Glu Leu Pro Cys Val Arg Pro Asp Cys Lys Glu Lys Val Leu Arg Lys  
 145                      150                      155                      160  
 Asp Leu Arg Asp His Val Glu Lys Ala Cys Lys Tyr Arg Glu Ala Thr  
 165                      170                      175  
 Cys Ser His Cys Lys Ser Gln Val Pro Met Ile Ala Leu Gln Lys His  
 180                      185                      190  
 Glu Asp Thr Asp Cys Pro Cys Val Val Val Ser Cys Pro His Lys Cys  
 195                      200                      205  
 Ser Val Gln Thr Leu Leu Arg Ser Glu Leu Ser Ala His Leu Ser Glu  
 210                      215                      220

Cys Val Asn Ala Pro Ser Thr Cys Ser Phe Lys Arg Tyr Gly Cys Val  
 225 230 235 240  
 Phe Gln Gly Thr Asn Gln Gln Ile Lys Ala His Glu Ala Ser Ser Ala  
 245 250 255  
 Val Gln His Val Asn Leu Leu Lys Glu Trp Ser Asn Ser Leu Glu Lys  
 260 265 270  
 Lys Val Ser Leu Leu Gln Asn Glu Ser Val Glu Lys Asn Lys Ser Ile  
 275 280 285  
 Gln Ser Leu His Asn Gln Ile Cys Ser Phe Glu Ile Glu Ile Glu Arg  
 290 295 300  
 Gln Lys Glu Met Leu Arg Asn Asn Glu Ser Lys Ile Leu His Leu Gln  
 305 310 315 320  
 Arg Val Ile Asp Ser Gln Ala Glu Lys Leu Lys Glu Leu Asp Lys Glu  
 325 330 335  
 Ile Arg Pro Phe Arg Gln Asn Trp Glu Glu Ala Asp Ser Met Lys Ser  
 340 345 350  
 Ser Val Glu Ser Leu Gln Asn Arg Val Thr Glu Leu Glu Ser Val Asp  
 355 360 365  
 Lys Ser Ala Gly Gln Val Ala Arg Asn Thr Gly Leu Leu Glu Ser Gln  
 370 375 380  
 Leu Ser Arg His Asp Gln Met Leu Ser Val His Asp Ile Arg Leu Ala  
 385 390 395 400  
 Asp Met Asp Leu Arg Phe Gln Val Leu Glu Thr Ala Ser Tyr Asn Gly  
 405 410 415  
 Val Leu Ile Trp Lys Ile Arg Asp Tyr Lys Arg Arg Lys Gln Glu Ala  
 420 425 430  
 Val Met Gly Lys Thr Leu Ser Leu Tyr Ser Gln Pro Phe Tyr Thr Gly  
 435 440 445  
 Tyr Phe Gly Tyr Lys Met Cys Ala Arg Val Tyr Leu Asn Gly Asp Gly  
 450 455 460  
 Met Gly Lys Gly Thr His Leu Ser Leu Phe Phe Val Ile Met Arg Gly  
 465 470 475 480  
 Glu Tyr Asp Ala Leu Leu Pro Trp Pro Phe Lys Gln Lys Val Thr Leu  
 485 490 495  
 Met Leu Met Asp Gln Gly Ser Ser Arg Arg His Leu Gly Asp Ala Phe  
 500 505 510  
 Lys Pro Asp Pro Asn Ser Ser Ser Phe Lys Lys Pro Thr Gly Glu Met  
 515 520 525



Asn Ile Ala Ser Gly Cys Pro Val Phe Val Ala Gln Thr Val Leu Glu  
 530 535 540

Asn Gly Thr Tyr Ile Lys Asp Asp Thr Ile Phe Ile Lys Val Ile Val  
 545 550 555 560

Asp Thr Ser Asp Leu Pro Asp Pro  
 565

<210> 167  
 <211> 107  
 <212> PRT  
 <213> Homo sapiens

<400> 167  
 Glu Gly Glu Glu Tyr Tyr Thr Ser Pro Val Glu Glu Arg Phe Gly Ile  
 1 5 10 15

Pro Trp Arg Leu Arg Ile Tyr Arg Asn Gly Gly Phe Leu Gly Leu Tyr  
 20 25 30

Leu His Cys Leu Lys Gly Glu Lys Asp Ser Asn Leu Lys Trp Ser Ile  
 35 40 45

Glu Ala Glu Phe Thr Leu Lys Leu Val Ser Asp Asn Gly Lys Ser Leu  
 50 55 60

Thr Lys Lys Pro Lys His Val Phe Glu Lys Pro Thr Gly Glu Gly Trp  
 65 70 75 80

Gly Lys Phe Ile Ser Trp Asp Asp Leu Glu Asp Asp Tyr Leu Val Asp  
 85 90 95

Asp Thr Leu Ile Ile Glu Ala Glu Val Lys Ile  
 100 105

<210> 168  
 <211> 57  
 <212> PRT  
 <213> Homo sapiens

<400> 168  
 His Glu Lys Thr Cys Pro Phe Val Pro Val Pro Cys Pro Asn Lys Cys  
 1 5 10 15

Gly Lys Lys Ile Leu Arg Glu Asp Leu Pro Asp His Leu Ser Ala Asp  
 20 25 30

Cys Pro Lys Arg Pro Val Pro Cys Pro Phe Lys Val Tyr Gly Cys Lys  
 35 40 45

Val Asp Met Val Arg Glu Asn Leu Gln  
 50 55

<210> 169  
 <211> 100  
 <212> PRT  
 <213> Homo sapiens

<400> 169  
 Val Leu Ser His Thr Phe Lys Asn Val Ser Lys Phe Glu Glu Gly Glu  
     1                    5                    10                    15  
 Ser Tyr Phe Ser Pro Ser Glu Glu His Phe Asn Ile Pro Trp Arg Leu  
             20                    25                    30  
 Lys Ile Tyr Arg Lys Asn Gly Phe Leu Ser Leu Tyr Leu His Cys Glu  
             35                    40                    45  
 Lys Glu Glu Asn Asp Ser Arg Lys Trp Ser Ile Glu Ala Glu Phe Thr  
             50                    55                    60  
 Leu Lys Leu Val Ser Gln Asn Gly Lys Ser Leu Ser Lys Lys Asp Thr  
             65                    70                    75                    80  
 His Val Phe Glu Lys Pro Gly Gly Trp Gly Phe Ser Lys Phe Ile Ser  
                     85                    90                    95  
 Trp Asp Asp Leu  
                     100

<210> 170  
 <211> 40  
 <212> PRT  
 <213> Homo sapiens

<400> 170  
 Cys Pro Ile Cys Leu Glu Glu Tyr Leu Lys Asp Pro Val Val Leu Pro  
     1                    5                    10                    15  
 Cys Gly His Thr Phe Cys Arg Ser Cys Ile Arg Lys Trp Leu Glu Ser  
             20                    25                    30  
 Ser Asn Ser Asn Thr Cys Pro Ile  
             35                    40

<210> 171  
 <211> 175  
 <212> PRT  
 <213> Bos taurus

<400> 171  
 Met Ser Ser Gln Ile Arg Gln Asn Tyr Ser Thr Glu Val Glu Ala Ala  
     1                    5                    10                    15  
 Val Asn Arg Leu Val Asn Met Gln Leu Arg Ala Ser Tyr Thr Tyr Leu  
             20                    25                    30  
 Ser Leu Gly Phe Tyr Phe Asp Arg Asp Asp Val Ala Leu Glu Gly Val

35					40					45					
Gly	His	Phe	Phe	Arg	Glu	Leu	Ala	Lys	Glu	Lys	Arg	Glu	Gly	Ala	Glu
50					55					60					
Arg	Leu	Leu	Lys	Leu	Gln	Asn	Gln	Arg	Gly	Gly	Arg	Ala	Leu	Phe	Leu
65					70					75					80
Asp	Val	Gln	Lys	Pro	Ser	Gln	Asp	Glu	Trp	Gly	Lys	Thr	Gln	Asp	Ala
				85					90					95	
Met	Glu	Ala	Ala	Leu	Leu	Val	Glu	Lys	Asn	Leu	Asn	Gln	Ala	Leu	Leu
			100					105					110		
Asp	Leu	His	Gly	Leu	Ala	Ser	Ala	Arg	Gly	Asp	Pro	His	Ile	Cys	Asp
		115					120					125			
Phe	Leu	Glu	Asn	His	Phe	Leu	Asp	Glu	Glu	Val	Lys	Leu	Ile	Lys	Lys
	130					135					140				
Met	Gly	Asp	His	Leu	Thr	Asn	Leu	Arg	Arg	Leu	Ala	Gly	Pro	Gln	Ala
145					150					155					160
Gly	Leu	Gly	Glu	Tyr	Leu	Phe	Glu	Arg	Leu	Thr	Leu	Lys	His	Asp	
				165					170					175	

<210> 172

<211> 175

<212> PRT

<213> *Cavia porcellus*

<400> 172

Met	Thr	Ser	Gln	Ile	Arg	Gln	Asn	Tyr	Ser	Thr	Glu	Val	Glu	Ala	Ala
1				5					10					15	
Val	Asn	Arg	Leu	Val	Asn	Leu	His	Leu	Gln	Ala	Ser	Tyr	Thr	Tyr	Leu
			20					25					30		
Ser	Leu	Gly	Tyr	Tyr	Phe	Asp	Arg	Asp	Asp	Val	Ala	Leu	Ala	Gly	Val
		35					40					45			
Gly	His	Phe	Phe	Arg	Glu	Leu	Ala	Lys	Glu	Lys	Arg	Glu	Gly	Ala	Glu
	50					55					60				
Arg	Leu	Leu	Lys	Thr	Gln	Asn	Gln	Arg	Gly	Gly	Arg	Ala	Leu	Phe	Gln
65					70					75					80
Asp	Val	Gln	Lys	Pro	Ser	Glu	Asp	Glu	Trp	Gly	Lys	Thr	Leu	Asp	Ala
				85					90					95	
Met	Glu	Ala	Ala	Leu	Thr	Leu	Glu	Lys	Ser	Leu	Asn	Gln	Ala	Leu	Leu
			100					105					110		
Asp	Leu	His	Ala	Leu	Gly	Ser	Ala	Lys	Thr	Asp	Ser	His	Val	Cys	Asp
		115					120					125			

Phe Leu Glu Asn His Phe Leu Asp Glu Glu Val Lys Leu Ile Lys Lys  
 130 135 140

Ile Gly Asp His Leu Thr Asn Leu Arg Arg Leu Asp Gly Pro Gln Ala  
 145 150 155 160

Gly Leu Gly Glu Tyr Leu Phe Glu Arg Leu Thr Leu Lys His Asp  
 165 170 175

<210> 173

<211> 183

<212> PRT

<213> Rattus norvegicus

<400> 173

Met Thr Ser Gln Ile Arg Gln Asn Tyr Ser Thr Glu Val Glu Ala Ala  
 1 5 10 15

Val Asn Arg Leu Val Asn Leu His Leu Arg Ala Ser Tyr Thr Tyr Leu  
 20 25 30

Ser Leu Gly Phe Phe Phe Asp Arg Asp Asp Val Ala Leu Glu Gly Val  
 35 40 45

Gly His Phe Phe Arg Glu Leu Ala Glu Glu Lys Arg Glu Gly Ala Glu  
 50 55 60

Arg Leu Leu Lys Leu Gln Asn Glu Arg Gly Gly Arg Ala Leu Phe Gln  
 65 70 75 80

Asp Val Gln Lys Pro Ser Gln Asp Glu Trp Gly Lys Thr Leu Glu Ala  
 85 90 95

Met Lys Ala Ala Leu Ala Leu Glu Lys Asn Leu Asn Gln Ala Leu Leu  
 100 105 110

Asp Leu His Ala Leu Gly Ser Ala Gln Ala Asp Pro His Leu Cys Asp  
 115 120 125

Phe Leu Glu Ser His Phe Leu Asp Lys Glu Val Lys Leu Ile Lys Lys  
 130 135 140

Met Gly Asn His Leu Thr Asn Leu Arg Arg Trp Gln Gly Pro Gln Pro  
 145 150 155 160

Ala Gln Thr Gly Val Ala Gln Ala Ser Leu Gly Glu Tyr Leu Phe Glu  
 165 170 175

Arg Leu Thr Leu Lys His Asp  
 180

<210> 174

<211> 175

<212> PRT

<213> Equus caballus

<400> 174

```
Met Ser Ser Gln Ile Arg Gln Asn Tyr Ser Thr Glu Val Glu Ala Ala
 1           5           10           15

Val Asn Arg Leu Val Asn Leu Tyr Leu Arg Ala Ser Tyr Thr Tyr Leu
      20           25           30

Ser Leu Gly Phe Tyr Phe Asp Arg Asp Asp Val Ala Leu Glu Gly Val
      35           40           45

Cys His Phe Phe Arg Glu Leu Ala Glu Glu Lys Arg Glu Gly Ala Glu
      50           55           60

Arg Leu Leu Lys Met Gln Asn Gln Arg Gly Gly Arg Ala Leu Phe Gln
      65           70           75           80

Asp Leu Gln Lys Pro Ser Gln Asp Glu Trp Gly Thr Thr Pro Asp Ala
      85           90           95

Met Lys Ala Ala Ile Val Leu Glu Lys Ser Leu Asn Gln Ala Leu Leu
      100          105          110

Asp Leu His Ala Leu Gly Ser Ala Gln Ala Asp Pro His Leu Cys Asp
      115          120          125

Phe Leu Glu Ser His Phe Leu Asp Glu Glu Val Lys Leu Ile Lys Lys
      130          135          140

Met Gly Asp His Leu Thr Asn Ile Gln Arg Leu Val Gly Ser Gln Ala
      145          150          155          160

Gly Leu Gly Glu Tyr Leu Phe Glu Arg Leu Thr Leu Lys His Asp
      165          170          175
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<210> 175

<211> 183

<212> PRT

<213> Mus musculus

<400> 175

```
Met Thr Ser Gln Ile Arg Gln Asn Tyr Ser Thr Glu Val Glu Ala Ala
 1           5           10           15

Val Asn Arg Leu Val Asn Leu His Leu Arg Ala Ser Tyr Thr Tyr Leu
      20           25           30

Ser Leu Gly Phe Phe Phe Asp Arg Asp Asp Val Ala Leu Glu Gly Val
      35           40           45

Gly His Phe Phe Arg Glu Leu Ala Glu Glu Lys Arg Glu Gly Ala Glu
      50           55           60

Arg Leu Leu Lys Leu Gln Asn Glu Arg Gly Gly Arg Ala Leu Phe Gln
      65           70           75           80
```

Asp Val Gln Lys Pro Ser Gln Asp Glu Trp Gly Lys Thr Leu Glu Ala  
                             85                            90                            95  
 Ile Gln Ala Ala Leu Arg Leu Glu Lys Asn Leu Asn Gln Ala Leu Leu  
                             100                            105                            110  
 Asp Leu His Ala Leu Gly Ser Ala Arg Thr Asp Pro His Leu Cys Asp  
                             115                            120                            125  
 Phe Leu Glu Ser His Phe Leu Asp Lys Glu Val Lys Leu Ile Lys Lys  
                             130                            135                            140  
 Met Gly Asn His Leu Thr Asn Leu Arg Arg Val Ala Gly Pro Gln Pro  
 145                            150                            155                            160  
 Val Gln Thr Gly Val Ala Gln Ala Ser Leu Gly Glu Tyr Leu Phe Glu  
                             165                            170                            175  
 Arg Leu Thr Leu Lys His Asp  
                             180

<210> 176  
 <211> 121  
 <212> PRT  
 <213> Homo sapiens

<400> 176  
 Glu Ala Ala Leu Asn Arg Gln Ile Asn Leu Glu Leu Tyr Ala Ser Tyr  
   1                            5                            10                            15  
 Val Tyr Leu Ser Met Ala Ala Tyr Phe Asp Arg Asp Asp Val Ala Leu  
                             20                            25                            30  
 Pro Gly Phe Ala Lys Phe Phe Arg Glu Ala Ser His Glu Glu Arg Glu  
                             35                            40                            45  
 His Ala Glu Lys Leu Met Lys Tyr Gln Asn Lys Arg Gly Gly Arg Val  
                             50                            55                            60  
 Val Leu Gln Asp Ile Lys Lys Pro Glu Lys Asp Glu Trp Gly Ser Gly  
   65                            70                            75                            80  
 Leu Glu Ala Met Gln Thr Ala Leu Gln Leu Glu Lys Ser Val Asn Gln  
                             85                            90                            95  
 Ser Leu Leu Glu Leu His Lys Val Ala Thr Asp Asn Asn Asp Pro His  
                             100                            105                            110  
 Leu Cys Asp Phe Leu Glu Ser Glu Tyr  
                             115                            120

<210> 177  
 <211> 257  
 <212> PRT  
 <213> Homo sapiens

<400> 177

Ser Lys Gly Phe Pro Ile Ile Leu Ala Gly Arg Pro Pro Leu Gly Phe  
1 5 10 15  
Pro Thr Ser Asp Pro Thr Glu Val Phe Ile Leu Phe Ser Asn Pro Ser  
20 25 30  
Leu Leu Phe Pro Val Ser Val Cys Ser Glu Arg Cys Ser Glu Arg Cys  
35 40 45  
Ser His Ser Pro Arg Leu Pro Pro His Pro Pro His Phe Pro Pro Pro  
50 55 60  
Gln Cys Val Asn Gly Val Leu Thr Pro Ser Ser Thr Leu Ser Pro Phe  
65 70 75 80  
Pro Pro Pro Glu Trp Asp Leu Leu Phe Pro Arg Val Val Leu Ser Arg  
85 90 95  
Gly Ala Ala Ala Gly Pro Pro Leu Val Phe Leu Leu Glu Thr Gly Ala  
100 105 110  
Phe Arg Glu Ser Ala Gly Ala Arg Ala Asn Arg Ser Gln Arg Gly Val  
115 120 125  
Ser Asp Thr Ser Pro Ala Ser His Gln Gly Glu Leu Ala Val Cys Asp  
130 135 140  
Ala Val Ser Val Trp Val Thr Asp Pro Trp Thr Ala Val Asp Leu Gly  
145 150 155 160  
Val Leu Glu Val Glu Val Leu Gly Glu Val Pro Ala Ala Val Gly Ser  
165 170 175  
Ser Leu Arg Gln His Phe Phe Val Ala Arg Phe Glu Ala Asp Lys Ser  
180 185 190  
Glu Glu Gly Gly Pro Gly Val Gly Gly Gly Ala Ala Ala Gly Val Trp  
195 200 205  
Thr Gly Gly His Trp Val Ser Glu Cys Lys Ala Lys Gln Ser Tyr Val  
210 215 220  
Arg Ala Leu Thr Ala Asp Ala Gln Gly Arg Val Asp Trp Arg Trp Ile  
225 230 235 240  
Gln Ile Gly Thr Ala Cys Val Cys Thr Leu Leu Ser Arg Thr Gly Arg  
245 250 255  
Ala

<210> 178

<211> 257

<212> PRT

<213> Homo sapiens

<400> 178

Ser Lys Gly Phe Pro Ile Ile Leu Ala Gly Arg Pro Pro Leu Gly Phe  
1 5 10 15  
Pro Thr Ser Asp Pro Thr Glu Val Phe Ile Phe Phe Pro Asn Pro Ser  
20 25 30  
Leu Leu Phe Pro Val Ser Met Cys Ser Glu Arg Cys Ser Glu Arg Cys  
35 40 45  
Ser Cys Ser Pro Arg Leu Pro Pro His Pro Pro His Phe Pro Pro Pro  
50 55 60  
Gln Cys Val Ile Gly Val Leu Thr Pro Ser Ser Thr Leu Ser Arg Phe  
65 70 75 80  
Pro Pro Pro Glu Trp Asp Leu Leu Phe Pro Arg Val Val Leu Ser Arg  
85 90 95  
Gly Ala Ala Ala Gly Pro Pro Leu Val Phe Leu Leu Glu Thr Gly Ala  
100 105 110  
Phe Arg Glu Ser Ala Gly Ala Arg Ala Asn Arg Ser Gln Arg Gly Val  
115 120 125  
Ser Asp Thr Ser Pro Val Ser His Gln Gly Glu Leu Ala Val Cys Asp  
130 135 140  
Ala Val Thr Val Trp Val Thr Asp Pro Trp Thr Ala Val Asp Leu Gly  
145 150 155 160  
Val Leu Glu Val Glu Val Leu Gly Glu Val Pro Ala Ala Gly Ser Ser  
165 170 175  
Ser Leu Arg Gln His Phe Phe Val Thr Arg Phe Glu Ala Asp Lys Ser  
180 185 190  
Lys Glu Gly Gly Pro Gly Val Gly Gly Gly Pro Ala Ala Gly Val Trp  
195 200 205  
Thr Gly Gly His Trp Val Ser Glu Cys Lys Ala Lys Gln Ser Tyr Gly  
210 215 220  
Arg Ala Leu Thr Thr Asp Ala Gln Gly Arg Val Asp Trp Arg Trp Ile  
225 230 235 240  
Gln Ile Gly Thr Ala Cys Val Cys Thr Leu Leu Ser Arg Thr Gly Arg  
245 250 255

Ala

<210> 179

<211> 210



<212> PRT

<213> Homo sapiens

<400> 179

Met Leu Leu Leu Pro Gln Ala Pro Ser Ala Ser Pro Ser Phe Ser Ser  
1 5 10 15  
Ser Pro Cys Val Ile Gly Val Leu Thr Pro Ser Ser Thr Leu Ser Arg  
20 25 30  
Phe Pro Pro Pro Glu Trp Asp Leu Leu Phe Pro Arg Val Val Leu Ser  
35 40 45  
Arg Gly Ala Ala Ala Gly Pro Pro Leu Val Phe Leu Leu Glu Thr Gly  
50 55 60  
Ala Phe Arg Glu Ser Ala Gly Ala Arg Ala Asn Arg Ser Gln Arg Gly  
65 70 75 80  
Val Ser Asp Thr Ser Pro Val Ser His Gln Gly Glu Leu Ala Val Cys  
85 90 95  
Asp Ala Val Thr Val Trp Val Thr Asp Pro Trp Thr Ala Val Asp Leu  
100 105 110  
Gly Val Leu Glu Val Glu Val Leu Gly Glu Val Pro Ala Ala Gly Ser  
115 120 125  
Ser Ser Leu Arg Gln His Phe Phe Val Thr Arg Phe Glu Ala Asp Lys  
130 135 140  
Ser Lys Glu Gly Gly Pro Gly Val Gly Gly Gly Pro Ala Ala Gly Val  
145 150 155 160  
Trp Thr Gly Gly His Trp Val Ser Glu Cys Lys Ala Lys Gln Ser Tyr  
165 170 175  
Gly Arg Ala Leu Thr Thr Asp Ala Gln Gly Arg Val Asp Trp Arg Trp  
180 185 190  
Ile Gln Ile Gly Thr Ala Cys Val Cys Thr Leu Leu Ser Arg Thr Gly  
195 200 205  
Arg Ala  
210

<210> 180

<211> 186

<212> PRT

<213> Homo sapiens

<400> 180

Pro Pro Pro Leu Thr Leu Ser Pro Phe Pro Pro Pro Glu Trp Asp Leu  
1 5 10 15  
Ile Phe Pro Gln Val Val Leu Ser Arg Gly Ala Ala Ala Gly Pro Pro

20					25					30					
Leu	Val	Phe	Leu	Leu	Glu	Thr	Gly	Ala	Phe	Trp	Glu	Ser	Ala	Gly	Thr
		35					40					45			
Arg	Ala	Asn	Arg	Ser	Gln	Arg	Gly	Val	Ser	Asp	Thr	Ser	Pro	Ala	Ser
	50					55					60				
His	Gln	Gly	Glu	Leu	Ala	Val	Cys	Asp	Ala	Val	Ser	Val	Trp	Val	Thr
65					70					75					80
Asp	Pro	Arg	Thr	Ala	Val	Asp	Leu	Val	Val	Leu	Glu	Val	Glu	Val	Leu
				85					90					95	
Gly	Glu	Val	Pro	Ala	Ala	Gly	Ser	Ser	Ser	Leu	His	Gln	His	Phe	Phe
			100					105					110		
Val	Thr	Cys	Phe	Lys	Ala	Asp	Asn	Ser	Glu	Glu	Gly	Gly	Pro	Gly	Val
		115					120					125			
Gly	Gly	Gly	Ala	Ala	Ala	Gly	Val	Trp	Thr	Gly	Gly	His	Trp	Val	Ser
	130					135						140			
Glu	Cys	Lys	Ala	Lys	Gln	Ser	Tyr	Val	Arg	Ala	Leu	Thr	Ala	Asp	Ala
145					150					155					160
Gln	Gly	Arg	Val	Asp	Trp	Arg	Trp	Ile	Gln	Thr	Gly	Thr	Ala	Cys	Val
				165					170					175	
Cys	Thr	Leu	Leu	Ser	Arg	Thr	Gly	Arg	Ala						
			180					185							

<210> 181  
 <211> 210  
 <212> PRT  
 <213> Homo sapiens

<400> 181  
 Met Leu Pro Leu Pro Ser Cys Ser Leu Pro Ile Leu Leu Leu Phe Leu  
 1 5 10 15  
 Leu Pro Ser Val Pro Ile Glu Ser Gln Pro Pro Pro Ser Thr Leu Pro  
 20 25 30  
 Pro Phe Leu Ala Pro Glu Trp Asp Leu Leu Ser Pro Arg Val Val Leu  
 35 40 45  
 Ser Arg Gly Ala Pro Ala Gly Pro Pro Leu Leu Phe Leu Leu Glu Ala  
 50 55 60  
 Gly Ala Phe Arg Glu Ser Ala Gly Ala Pro Ala Asn Arg Ser Arg Arg  
 65 70 75 80  
 Gly Val Ser Glu Thr Ala Pro Ala Ser Arg Arg Gly Glu Leu Ala Val  
 85 90 95

Cys Asp Ala Val Ser Gly Trp Val Thr Asp Arg Arg Thr Ala Val Asp  
 100 105 110  
 Leu Arg Gly Arg Glu Val Glu Val Leu Gly Glu Val Pro Ala Ala Gly  
 115 120 125  
 Gly Ser Pro Leu Arg Gln Tyr Phe Phe Glu Thr Arg Cys Lys Ala Asp  
 130 135 140  
 Asn Ala Glu Glu Gly Gly Pro Gly Ala Gly Gly Gly Cys Arg Gly  
 145 150 155 160  
 Val Asp Arg Arg His Trp Val Ser Glu Cys Lys Ala Lys Gln Ser Tyr  
 165 170 175  
 Val Arg Ala Leu Thr Ala Asp Ala Gln Gly Arg Val Gly Trp Arg Trp  
 180 185 190  
 Ile Arg Ile Asp Thr Ala Cys Val Cys Thr Leu Leu Ser Arg Thr Gly  
 195 200 205  
 Arg Ala  
 210

<210> 182  
 <211> 95  
 <212> PRT  
 <213> Homo sapiens

<400> 182  
 Ala Ser Arg Arg Gly Glu Leu Ser Val Cys Asp Ser Val Ser Val Trp  
 1 5 10 15  
 Val Thr Asp Lys Thr Thr Ala Val Asp Ile Arg Gly Lys Glu Val Thr  
 20 25 30  
 Val Leu Gly Glu Val Asn Thr Asn Asn Gly Pro Leu Lys Gln Tyr Phe  
 35 40 45  
 Phe Glu Thr Lys Cys Lys Pro Pro Gly Pro Val Gly Ser Gly Cys Arg  
 50 55 60  
 Gly Ile Asp Lys Arg His Trp Asn Ser Glu Cys Lys Thr Thr Gln Thr  
 65 70 75 80  
 Tyr Val Arg Ala Leu Thr Met Asp Ala Asn Lys Arg Val Gly Trp  
 85 90 95

<210> 183  
 <211> 94  
 <212> PRT  
 <213> Homo sapiens

<400> 183  
 Ser His Arg Gly Glu Tyr Ser Val Cys Asp Ser Val Ser Val Trp Val

1	5	10	15
Thr Asp Lys Thr Thr Ala Thr Asp Ile Ser Gly Lys Glu Val Thr Val	20	25	30
Leu Gly Glu Val Pro Val Asn Asn Gly Pro Leu Lys Gln Tyr Phe Phe	35	40	45
Glu Thr Arg Cys Lys Ser Pro Asn Pro Val Lys Ser Gly Cys Arg Gly	50	55	60
Ile Asp Ser Arg His Trp Asn Ser His Cys Thr Thr Thr Gln Thr Tyr	65	70	75
Val Arg Ala Leu Thr Ser Asp Ala Asn Gln Arg Val Gly Trp	85	90	

<210> 184

<211> 335

<212> PRT

<213> Mus musculus

<400> 184

Met Ala Ala Pro Ile Gly Val Pro Leu Leu Val Arg Gly Gly Cys Gln	1	5	10	15
Arg Ile Leu Ser Ser Pro Leu Asn His Ile Tyr Leu His Lys Arg Ser	20	25	30	
Gly Ser Gln Gln Arg Arg His Phe Phe Phe Trp Arg Gln Arg Asp Ile	35	40	45	
Ser His Ser Val Val Ser Pro Ala Ala Val Ser Pro Ala His Pro Val	50	55	60	
Pro Lys Arg Ile Lys Lys Pro Asp Tyr Val Thr Thr Gly Ile Val Pro	65	70	75	80
Asp Trp Gly Asp Ser Ile Glu Val Lys Asp Glu Asp Gln Ile Gln Gly	85	90	95	
Leu Arg Glu Ala Cys Arg Leu Ala Arg His Val Leu Leu Leu Ala Gly	100	105	110	
Lys Ser Leu Lys Val Asp Met Thr Thr Glu Glu Ile Asp Ala Leu Val	115	120	125	
His Trp Glu Ile Ile Arg His Asp Ala Tyr Pro Ser Pro Leu Gly Tyr	130	135	140	
Gly Arg Phe Pro Lys Ser Val Cys Thr Ser Val Asn Asn Val Leu Cys	145	150	155	160
His Gly Ile Pro Asp Ser Arg Pro Leu Gln Asp Gly Asp Ile Ile Asn	165	170	175	

Ile Asp Val Thr Val Tyr Tyr Asn Gly Tyr His Gly Asp Thr Ser Glu  
 180 185 190  
 Thr Phe Leu Val Gly Asn Val Asp Glu Ser Gly Lys Lys Leu Val Glu  
 195 200 205  
 Val Ala Arg Arg Cys Arg Asp Glu Ala Ile Ala Ala Cys Arg Ala Gly  
 210 215 220  
 Ala Pro Phe Ser Val Ile Gly Asn Thr Ile Ser Arg Ile Thr His Gln  
 225 230 235 240  
 Asn Gly Leu Gln Val Cys Pro His Phe Val Gly His Gly Ile Gly Ser  
 245 250 255  
 Tyr Phe His Gly His Pro Glu Ile Trp His His Ala Asn Asp Asn Asp  
 260 265 270  
 Leu Pro Met Glu Glu Gly Met Ala Phe Thr Ile Glu Pro Ile Ile Thr  
 275 280 285  
 Glu Gly Ser Pro Glu Phe Lys Val Leu Glu Asp Ala Trp Thr Val Val  
 290 295 300  
 Ser Leu Asp Asn Gln Arg Ser Ala Gln Phe Glu His Thr Val Leu Ile  
 305 310 315 320  
 Thr Pro Arg Gly Val Glu Ile Leu Thr Lys Leu Pro Gln Glu Ala  
 325 330 335

<210> 185

<211> 217

<212> PRT

<213> Mus musculus

<400> 185

Met Thr Thr Glu Glu Ile Asp Ala Leu Val His Trp Glu Ile Ile Arg  
 1 5 10 15  
 His Asp Ala Tyr Pro Ser Pro Leu Gly Tyr Gly Arg Phe Pro Lys Ser  
 20 25 30  
 Val Cys Thr Ser Val Asn Asn Val Leu Cys His Gly Ile Pro Asp Ser  
 35 40 45  
 Arg Pro Leu Gln Asp Gly Asp Ile Ile Asn Ile Asp Val Thr Val Tyr  
 50 55 60  
 Tyr Asn Gly Tyr His Gly Asp Thr Ser Glu Thr Phe Leu Val Gly Asn  
 65 70 75 80  
 Val Asp Glu Ser Gly Lys Lys Leu Val Glu Val Ala Arg Arg Cys Arg  
 85 90 95  
 Asp Glu Ala Ile Ala Ala Cys Arg Ala Gly Ala Pro Phe Ser Val Ile  
 100 105 110

Gly Thr Thr Ile Ser Arg Ile Thr His Gln Asn Gly Leu Gln Val Cys  
 115 120 125  
 Pro His Phe Val Gly His Gly Ile Gly Ser Tyr Phe His Gly His Pro  
 130 135 140  
 Glu Ile Trp His His Ala Asn Asp Asn Asp Leu Pro Met Glu Glu Gly  
 145 150 155 160  
 Met Ala Phe Thr Ile Glu Pro Ile Ile Thr Glu Gly Ser Pro Glu Phe  
 165 170 175  
 Lys Val Leu Glu Asp Ala Trp Thr Val Val Ser Leu Asp Asn Gln Arg  
 180 185 190  
 Ser Ala Gln Phe Glu His Thr Val Leu Ile Thr Pro Arg Gly Val Glu  
 195 200 205  
 Ile Leu Thr Lys Leu Pro Gln Glu Ala  
 210 215  
 <210> 186  
 <211> 369  
 <212> PRT  
 <213> Arabidopsis thaliana  
 <400> 186  
 Met Ala Ser Ser Val Phe Leu Ser Ser Phe Ser Ser Ser Ser Ser Leu  
 1 5 10 15  
 Gln Leu Cys Ser Ser Phe His Gly Glu Tyr Leu Ala Pro Ser Arg Cys  
 20 25 30  
 Phe Leu Gly Ala Pro Val Thr Ser Ser Ser Leu Ser Leu Ser Gly Lys  
 35 40 45  
 Lys Asn Ser Tyr Ser Pro Arg Gln Phe His Val Ser Ala Lys Lys Val  
 50 55 60  
 Ser Gly Leu Glu Glu Ala Ile Arg Ile Arg Lys Met Arg Glu Leu Glu  
 65 70 75 80  
 Thr Lys Ser Lys Val Arg Arg Asn Pro Pro Leu Arg Arg Gly Arg Val  
 85 90 95  
 Ser Pro Arg Leu Leu Val Pro Asp His Ile Pro Arg Pro Pro Tyr Val  
 100 105 110  
 Glu Ser Gly Val Leu Pro Asp Ile Ser Ser Glu Phe Gln Ile Pro Gly  
 115 120 125  
 Pro Glu Gly Ile Ala Lys Met Arg Ala Ala Cys Glu Leu Ala Ala Arg  
 130 135 140  
 Val Leu Asn Tyr Ala Gly Thr Leu Val Lys Pro Ser Val Thr Thr Asn

145		150		155		160
Glu Ile Asp Lys	Ala Val His Asp Met	Ile Ile Glu Ala Gly	Ala Tyr			
	165	170	175			
Pro Ser Pro Leu	Gly Tyr Gly Gly Phe	Pro Lys Ser Val	Cys Thr Ser			
	180	185	190			
Val Asn Glu Cys	Met Cys His Gly Ile	Pro Asp Ser Arg	Gln Leu Gln			
	195	200	205			
Ser Gly Asp Ile	Ile Asn Ile Asp Val	Thr Val Tyr Leu	Asp Gly Tyr			
	210	215	220			
His Gly Asp Thr	Ser Arg Thr Phe Phe	Cys Gly Glu Val	Asp Glu Gly			
	225	230	235	240		
Phe Lys Arg Leu	Val Lys Val Thr Glu	Glu Cys Leu Glu	Arg Gly Ile			
	245	250	255			
Ala Val Cys Lys	Asp Gly Ala Ser Phe	Lys Lys Ile Gly	Lys Arg Ile			
	260	265	270			
Ser Glu His Ala	Glu Lys Phe Gly Tyr	Asn Val Val Glu	Arg Phe Val			
	275	280	285			
Gly His Gly Val	Gly Pro Val Phe His	Ser Glu Pro Leu	Ile Tyr His			
	290	295	300			
Tyr Arg Asn Asp	Glu Pro Gly Leu Met	Val Glu Gly Gln	Thr Phe Thr			
	305	310	315	320		
Ile Glu Pro Ile	Leu Thr Ile Gly Thr	Thr Glu Cys Val	Thr Trp Pro			
	325	330	335			
Asp Asn Trp Thr	Thr Leu Thr Ala Asp	Gly Gly Val Ala	Ala Gln Phe			
	340	345	350			
Glu His Thr Ile	Leu Ile Thr Arg Thr	Gly Ser Glu Ile	Leu Thr Lys			
	355	360	365			

Cys

<210> 187  
 <211> 369  
 <212> PRT  
 <213> Arabidopsis thaliana

<400> 187  
 Met Ala Ser Ser Val Phe Leu Ser Ser Phe Ser Ser Ser Ser Ser Leu  
 1 5 10 15  
 Gln Leu Cys Ser Ser Phe His Gly Glu Tyr Leu Ala Pro Ser Arg Cys  
 20 25 30

Phe Ile Gly Ala Pro Val Thr Ser Ser Ser Leu Ser Leu Ser Gly Lys  
35 40 45  
Lys Asn Ser Tyr Ser Pro Arg Gln Phe His Val Ser Ala Lys Lys Val  
50 55 60  
Ser Gly Leu Glu Glu Ala Ile Arg Ile Arg Lys Met Arg Glu Leu Glu  
65 70 75 80  
Thr Lys Ser Lys Val Arg Arg Asn Pro Pro Leu Arg Arg Gly Arg Val  
85 90 95  
Ser Pro Arg Leu Leu Val Pro Asp His Ile Pro Arg Pro Pro Tyr Val  
100 105 110  
Glu Ser Gly Val Leu Pro Asp Ile Ser Ser Glu Phe Gln Ile Pro Gly  
115 120 125  
Pro Glu Gly Ile Ala Lys Met Arg Ala Ala Cys Glu Leu Ala Ala Arg  
130 135 140  
Val Leu Asn Tyr Ala Gly Thr Leu Val Lys Pro Ser Val Thr Thr Asn  
145 150 155 160  
Glu Ile Asp Lys Ala Val His Asp Met Ile Ile Glu Ala Gly Ala Tyr  
165 170 175  
Pro Ser Pro Leu Gly Tyr Gly Gly Phe Pro Lys Ser Val Cys Thr Ser  
180 185 190  
Val Asn Glu Cys Met Cys His Gly Ile Pro Asp Ser Arg Gln Leu Gln  
195 200 205  
Ser Gly Asp Ile Ile Asn Ile Asp Val Thr Val Tyr Leu Asp Gly Tyr  
210 215 220  
His Gly Asp Thr Ser Arg Thr Phe Phe Cys Gly Glu Val Asp Glu Gly  
225 230 235 240  
Phe Lys Gln Leu Val Lys Val Thr Glu Glu Cys Leu Glu Lys Gly Ile  
245 250 255  
Ala Val Cys Lys Asp Gly Ala Ser Phe Lys Lys Ile Gly Lys Arg Ile  
260 265 270  
Ser Glu His Ala Glu Lys Phe Gly Tyr Asn Val Val Glu Arg Phe Val  
275 280 285  
Gly His Gly Val Gly Pro Val Phe His Ser Glu Pro Leu Ile Tyr His  
290 295 300  
Tyr Arg Asn Asp Glu Pro Gly Leu Met Val Glu Gly Gln Thr Phe Thr  
305 310 315 320  
Ile Glu Pro Ile Leu Thr Ile Gly Thr Thr Glu Cys Val Thr Trp Pro  
325 330 335



Asp Asn Trp Thr Thr Leu Thr Ala Asp Gly Gly Val Ala Ala Gln Phe  
 340 345 350

Glu His Thr Ile Leu Ile Thr Arg Thr Gly Ser Glu Ile Leu Thr Lys  
 355 360 365

Cys

<210> 188

<211> 307

<212> PRT

<213> *Drosophila melanogaster*

<400> 188

Met Gly Ser Gly Leu Ser Leu Ser Gly Leu Tyr Ser Asp Gly Tyr Thr  
 1 5 10 15

Tyr Arg Asp Thr Gly Lys Tyr Glu Gln Ile Val Ser Thr Gly Gln Val  
 20 25 30

Ser Pro Glu Arg Phe Val Pro Glu Glu Ile Lys Lys Pro Ala Tyr Tyr  
 35 40 45

Phe Lys Asn Met Pro Pro Gly Asn Thr Leu Gly Ser Pro Glu Ile Lys  
 50 55 60

Ser Gln Val Gln Ile Asp Ala Met Arg Leu Ser Gly Arg Leu Ala Ala  
 65 70 75 80

Arg Ile Leu Arg Glu Cys Gly Lys Leu Ala Thr Val Gly Thr Thr Thr  
 85 90 95

Asp Gln Ile Asp Ala Phe Ala His Glu Arg Ile Leu Glu Ser Lys Ala  
 100 105 110

Tyr Pro Ser Pro Leu Arg Tyr Ala Gly Phe Pro Lys Ser Ile Cys Thr  
 115 120 125

Ser Ile Asn Asn Ile Ala Cys His Gly Ile Pro Asp Asp Arg Gln Leu  
 130 135 140

Ala Asp Gly Asp Ile Ile Asn Ile Asp Val Thr Val Phe Leu Asn Gly  
 145 150 155 160

Tyr His Gly Asp Cys Ser Glu Thr Phe Arg Val Gly Asn Val Asp Glu  
 165 170 175

Arg Gly Gly Phe Leu Val Glu Ala Thr Lys Ser Cys Leu Asp Gln Cys  
 180 185 190

Ile Ser Leu Cys Gly Pro Gly Val Glu Phe Asn Glu Ile Gly Lys Phe  
 195 200 205

Ile Asp Arg Tyr Cys Asp Glu His Asp Leu Ala Ser Ile Ala Ala Phe  
 210 215 220

Ile Gly His Gly Ile Gly Ser Tyr Phe His Gly Pro Pro Glu Ile Leu  
 225 230 235 240  
 His Tyr Tyr Asn Glu Ile Pro Gly Lys Met Gln Pro Gly Met Thr Phe  
 245 250 255  
 Thr Ile Glu Pro Ile Leu Ser Leu Gly Gly Ala Glu Ile Ala Val Leu  
 260 265 270  
 Gln Asp Gly Trp Thr Ala Ile Ser Leu Asp Gly Ala Arg Ser Ala Gln  
 275 280 285  
 Phe Glu His Thr Ile Leu Ile Thr Glu Thr Gly Thr Glu Ile Leu Thr  
 290 295 300  
 Arg Asp Gln  
 305

<210> 189  
 <211> 240  
 <212> PRT  
 <213> Homo sapiens

<400> 189  
 Ile Lys Ser Pro Glu Glu Ile Glu Lys Met Arg Lys Ala Gly Glu Ile  
 1 5 10 15  
 Ala Arg Arg Val His Arg Ala Val Val Glu Ala Ile Lys Pro Gly Met  
 20 25 30  
 Thr Glu Leu Glu Ile Ala Glu Glu Ile Glu Tyr Ala Ile Arg Lys Arg  
 35 40 45  
 Gly Gly Ala Asp Pro Ala Phe Tyr Gly Tyr Ile Val Ile Gly Phe Pro  
 50 55 60  
 Thr Ser Ile Ser Val Asn Glu Ala Val Ala His Tyr Ser Pro Asp Asp  
 65 70 75 80  
 Arg Val Leu Lys Asp Gly Asp Ile Val Leu Ile Asp Ala Gly Ala Glu  
 85 90 95  
 Tyr Asp Gly Tyr His Gly Asp Ile Ala Arg Thr Phe Pro Val Gly Lys  
 100 105 110  
 Pro Thr Pro Asp Ala Arg Lys Leu Tyr Glu Ala Val Leu Glu Ala Gln  
 115 120 125  
 Glu Ala Ala Ile Glu Ala Ile Lys Pro Gly Asn Thr Leu Ser Asp Ile  
 130 135 140  
 His Ala Ala Ile Gln Lys Val Ala Glu Ser Glu Leu Gly Gln Cys Lys  
 145 150 155 160  
 Pro Val Arg His Gly Leu Gly His Gly Ile Gly Leu Asp Val His Asp

	165		170		175										
Val	Pro	Gly	Val	Pro	Gln	Tyr	Asp	Arg	Gly	Asp	Thr	Arg	Val	Leu	Glu
			180						185					190	
Glu	Gly	Met	Val	Phe	Thr	Ile	Glu	Pro	Gly	Val	Tyr	Phe	Gly	Gly	Val
		195					200					205			
Pro	Gly	Arg	Thr	Arg	Gly	Asp	Gly	Trp	Val	Arg	Ile	Glu	Asp	Asp	Ile
	210					215					220				
Val	Val	Ser	Glu	Gln	Gly	Glu	Glu	Thr	Leu	Thr	Val	Thr	Pro	Asn	Gly
225					230					235					240

<210> 190  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: PCR Primer

<400> 190  
 tgaccacaga catcatcagt gt 22

<210> 191  
 <211> 26  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: PCR Primer

<400> 191  
 ccatcttgaa ccatgcccac taccta 26

<210> 192  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: PCR Primer

<400> 192  
 tcaatggtga agtgcaggtt 20

<210> 193  
 <211> 22  
 <212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: PCR Primer

<400> 193

tgaccacaga catcatcagt gt

22

<210> 194

<211> 26

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: PCR Primer

<400> 194

ccatcttgaa ccatgcccac taccta

26

<210> 195

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: PCR Primer

<400> 195

tcaatggtga agtgcaggtt

20

<210> 196

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: PCR Primer

<400> 196

cacggaacgt atcttcaaga aa

22

<210> 197

<211> 26

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: PCR Primer

<400> 197

ctgcacgtgt gaccctaact ggactg

26

<210> 198  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: PCR Primer  
  
 <400> 198  
 gccacagtcc acagaacata tt 22  
  
 <210> 199  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: PCR Primer  
  
 <400> 199  
 ggcttcctca tggctactcct ta 22  
  
 <210> 200  
 <211> 26  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: PCR Primer  
  
 <400> 200  
 ccgctggatc tcttccaact ggtact 26  
  
 <210> 201  
 <211> 21  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: PCR Primer  
  
 <400> 201  
 acagtgggggt gacatgtacc t 21  
  
 <210> 202  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: PCR Primer  
  
 <400> 202

tggactatga agcaggagtc at 22

<210> 203  
<211> 26  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: PCR Primer

<400> 203  
caatgtgacc aacaagtccc acatct 26

<210> 204  
<211> 22  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: PCR Primer

<400> 204  
cagagaaatt gtgggtgaaa gt 22

<210> 205  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: PCR Primer

<400> 205  
aagcgagaaa gccactaggt 20

<210> 206  
<211> 23  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: PCR Primer

<400> 206  
acaccacagc ggctcactcc att 23

<210> 207  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: PCR Primer

<400> 207

gcaatacgca cgtggtagag

20

<210> 208

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: PCR Primer

<400> 208

aagcgagaaa gccactaggt a

21

<210> 209

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: PCR Primer

<400> 209

acaccacagc ggctcactcc att

23

<210> 210

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: PCR Primer

<400> 210

gtagagtccc agtctggaag ct

22

<210> 211

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: PCR Primer

<400> 211

tgaaatgcaa cagctatcaa ca

22

<210> 212

<211> 28

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: PCR Primer

<400> 212

tccaactctt cagatactga aagcaaca

28

<210> 213

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: PCR Primer

<400> 213

tttgggaagt aggccagaac

20

<210> 214

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: PCR Primer

<400> 214

agggactaca gcctccagat ac

22

<210> 215

<211> 26

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: PCR Primer

<400> 215

atggcccata cacgtgttct gttcag

26

<210> 216

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: PCR Primer

<400> 216

cattgttctg ggtgtatggt ga

22



<210> 217  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: PCR Primer  
  
 <400> 217  
 gctggtacct tgtgttgaca ct 22  
  
 <210> 218  
 <211> 27  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: PCR Primer  
  
 <400> 218  
 ccagcatatt ctacctgaag aatgcc a 27  
  
 <210> 219  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: PCR Primer  
  
 <400> 219  
 aaagcctttt atgggtcttt ga 22  
  
 <210> 220  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: PCR Primer  
  
 <400> 220  
 tcagccagac catagagaat gt 22  
  
 <210> 221  
 <211> 25  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: PCR Primer  
  
 <400> 221

atgctgaagc accccaacat cattg 25

<210> 222

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: PCR Primer

<400> 222

ctccttcaga catacccctc tt 22

<210> 223

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: PCR Primer

<400> 223

catagagaat gttcgccaag ag 22

<210> 224

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: PCR Primer

<400> 224

atgctgaagc accccaacat cattg 25

<210> 225

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: PCR Primer

<400> 225

ctccttcaga catacccctc tt 22

<210> 226

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: PCR Primer

<400> 226

gcatgtgtgg agacagaaga g

21

<210> 227

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: PCR Primer

<400> 227

cttcctaca gctggagcag ccagt

25

<210> 228

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: PCR Primer

<400> 228

accaagatag agctccatga tg

22

<210> 229

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: PCR Primer

<400> 229

ggcatgtgtg gagacagaag

20

<210> 230

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: PCR Primer

<400> 230

cttcctaca gctggagcag ccagt

25

<210> 231

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: PCR Primer

<400> 231

ccaagataga gctccatgat gt

22

<210> 232

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: PCR Primer

<400> 232

gcaaaaccac gaagagataa tg

22

<210> 233

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: PCR Primer

<400> 233

caaaccagag ctgcttgctt tccag

25

<210> 234

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: PCR Primer

<400> 234

ttacatagcc aaaacctttt gg

22

<210> 235

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: PCR Primer

<400> 235

ggctcattcg aaactactgg ta

22

<210> 236  
 <211> 26  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: PCR Primer  
  
 <400> 236  
 tgggaatttcc tcgcccactc ttacct 26  
  
 <210> 237  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: PCR Primer  
  
 <400> 237  
 gggtgacagg tttgcagtag ag 22  
  
 <210> 238  
 <211> 22  
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22

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tgacagagca cgttgtttac ag

22

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